

Inside Dope

By GEORGE
F. TAUBENECK



Learn to live and laugh —
thus delay your epitaph

Stories of the Week

How To Understand
Women

Smart Fellow Van Doren
Ideas for This Week
Air Conditioning Humor
More Fun from Readers
Exit Smiling

Stories of the Week

"Sorry," rejected a dentist, "but I can't give you an appointment this afternoon. I have 18 cavities to fill."

Then he picked up his golf bag and got into his car.

Neglected wife persuaded her husband to see a psychiatrist. After listening to the husband for awhile, Dr. Psycho tut-tutted:

"Nothing fundamentally wrong with you, sir. Your only trouble is that you are in love with your golf clubs."

"What?" recoiled the husband. "Er, well, they are sorta cute."

How To Understand
Women

Group of noted medicos has succeeded in analyzing women chemically. Here is the report of their historic analysis:

Symbol: Wo.

Accepted weight: 120.

Occurrence: Wherever man is found.

Physical properties: Great attraction to gold, silver, platinum, and precious stones. Violent reaction if left alone. Able to absorb great amounts of expensive food matter. Turn green when placed beside better-looking specimens.

Uses: Highly ornamental. Tonic for acceleration of low spirits. An equalizer in the redistribution of wealth.

Note: Probably the most effective income-reducing agent known.

Caution: Highly explosive in inexperienced hands. Very complex and result in many unexplainable actions. Highly unpredictable; should be watched always.

Smart Fellow Van Doren

Charles Van Doren, who won \$129,000 on a TV quiz show, has revealed how he invested his windfall money. In order he:

(1) Married his secretary, who's still working for him;

(2) Air conditioned his apartment;

(3) Purchased a dishwasher (Concluded on Page 6, Col. 1)

20,000 Get Bid To Environment Confab Sept. 12

LOS ANGELES — "Comfort control" in designing indoor climate will be the theme of "the first U. S. environmental control conference" Sept. 12-13 sponsored here by the School of Engineering, University of California at Los Angeles, in cooperation with the Institute of Heating and Air Conditioning Industries.

It was disclosed that 20,000 industry figures would get bids from UCLA to hear how far man has progressed in indoor climate design.

Invitations for the conference, part of a "Stamp Plan" education program, will include every architect, engineer, builders, developer, manufacturer, and contractor in southern California plus many in the east, said R. E. (Rudie) Harkens, IHACI's managing director.

Dean L. M. K. Boelter will (Concluded on Page 21, Col. 3)

Punxsutawney Adds S. C. Plant, Expands Line

PUNXSUTAWNEY, Pa. — A new plant to handle increasing production of "Beverage-Air" coolers is being constructed at Spartansburg, S. C. by Punxsutawney Co.

Herman L. Buffington, president of the firm, said "a greatly expanded line of new refrigeration products and confidence in continued growth in southern markets" are the reasons the company is locating the new plant in Spartansburg.

To be of brick masonry and steel construction, the plant will provide 40,000 sq. ft. of floor space for manufacturing, engineering, and administrative operations. Future expansion has been provided for in the planning.

Buffington said that at least the office and engineering sections of the new building will be (Concluded on Page 21, Col. 4)

See Anti-Bid Shopping Bill Tied-Up In Committee, But Hearings Promised

WASHINGTON, D. C.—General consensus of many senators and their staff personnel is that the Federal Construction Contract Procedures Act (HR 7168 and S 2300, the so-called anti-bid shopping bills) apparently is bottled up in the Senate Judiciary Committee for the remainder of this session of Congress, according to the National Association of Plumbing Contractors.

Most believe that the bills will not come up before the Judiciary Committee this year. If (Concluded on Page 21, Col. 1)

COLUMBUS, Ohio — The Westinghouse Major Appliance Division not only took the wraps off a restyled line of major appliances for 1958 at a recent series of showings for distributors and dealers here, it also made known two of the biggest changes in pricing and distribution policy it has made since it has been operating in the appliance field.

1. The factory will not establish any list prices on Westinghouse major appliances for the 1958 year. Distributors will

establish the list prices.

2. In what could be termed a decentralization of marketing policy, each of the Westinghouse distributors, whether independent or factory branch, is totally responsible for Westinghouse major appliance operations in his area.

The factory's role, in this new setup, is confined to policy guidance, promotion development, national advertising and product design and production.

"Each distributor is charged (Concluded on Page 17, Col. 1)

BEHIND PAGE ONE . . .

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Westinghouse Bows '58 Appliances; FHA Softens Cooling Rules In New ME-13

Drops Requirement for Permanent Systems'

WASHINGTON, D. C.—The Federal Housing Administration recently sent to its district offices a new set of minimum requirements for summer air conditioning equipment.

These generally relax the agency's previous requirements for acceptability of air conditioning equipment in FHA in-

Full text of Bulletin ME-13 will be published in the next issue of the NEWS.

sured homes and make some important changes.

The new requirements are outlined in Mechanical Engineering Bulletin No. ME-13, which, as of Aug. 12, supersedes ME-12 in effect since June, 1954.

Among significant changes: Elimination of the require- (Concluded on Page 21, Col. 1)

Weber Showcase Names Stevenson

LOS ANGELES — E. O. Stevenson, vice president of Weber Showcase & Fixture Co., Inc., has been named to head up sales for all divisions of the company and become assistant general manager of the nationwide interior fixture company's plant at Grand Rapids, Mich.

He took up his dual and expanded duties Sept. 1.

In making the announcement, Executive Vice President Alexander Black stated the promotion is in keeping with long-range Weber plans to further develop and broaden its eastern area of operations. The Grand Rapids factory has been in op- (Concluded on Page 21, Col. 1)

American-Standard Cuts Furnace Prices

NEW YORK CITY—The Air Conditioning Div. of American-Standard has announced a reduction in the price of furnace units in its warm air heating line.

These prices have been published in new dealer price lists which have been issued to American-Standard warm air and air conditioning distributors throughout the country.

The division also announced a new 10-year warranty covering all furnace units. Previously the warranty term had been one year.

In addition, a new 32-page (Concluded on Page 21, Col. 4)

Heating Section Starts on Page 8

Dependable Prescription for Refrigeration & Air Conditioning Equipment

Rx Always Specify
READING
Copper Tubing

Made by Copper Tube SPECIALISTS



READING TUBE CORPORATION
EMPIRE STATE BUILDING NEW YORK 1, N. Y.
WORKS: READING, PA.



by **KRAMER**



HINGED PAN
quick and easy access

Praised for years by installation and service men.

Built-in Heat Exchanger

NO RUSTING — polished aluminum casing

WRITE NOW

FOR

BULLETIN C-192-7

COOLMASTER
2,500 to 60,000 BTU's Per Hour

SMALL CURVETTE
800 to 5,600 BTU's Per Hour

RADIAL
2,500 to 23,000 BTU's Per Hour

KRAMER TRENTON CO. • Trenton 5, N.J.



Sees U. S.-Style Supermarkets on Horizon

Australian Firm To Begin Production Of Sherer-Gillett Self-Service Cases

MARSHALL, Mich. — The on refrigerated display cases. complete line of self-service refrigerated cases manufactured by Sherer-Gillett Co. here will be manufactured and sold in Australia beginning this summer by Sherer-Pennant Proprietary, Ltd., of Sydney.

This has been announced by John H. Coolidge, president of Sherer-Gillett, and Herbert J. Jones, director of the new Australian company.

Agreement between Sherer and Pennant Refrigerators Proprietary, Ltd., was reached at Marshall. Contract signing culminated a six-week's tour of the United States by Jones, here to study American refrigeration products with major emphasis

"We will start manufacturing Sherer's 1958 self-service line immediately," Jones said.

Under the agreement reached by Sherer and Pennant, Sherer designs will be manufactured by Pennant Refrigerators Pty., Ltd., and sold by Sherer-Pennant Pty., Ltd., in which Sherer-Gillett Co. holds an interest.

'REVOLUTION' IN FOOD MARKETING DOWN UNDER

Jones believes Sherer-Pennant will further a "revolution" in food marketing now getting under way in Australia.

"We are several years behind the United States in grocery and meat marketing," he said. "We really have nothing in all Australia to compare to the modern American supermarket. Prior to our affiliation with Sherer we couldn't have adequately equipped one according to the standards in the United States.

"We undoubtedly will have what you call 'supermarkets' in the not-too-distant future. However, even though the food marketing industry expands in Australia it will be a gradual process and we'll probably stay for some time at least in what you call the 'superette' class.

SEES SUPERMARKET OPERATIONS STARTING

"I'm convinced, however, that supermarket style operations will soon be ready to roll and the first operator who opens one—who gives the Australian housewife the delight of shopping supermarket style—will make a pile of money."

Store Modernization Show Due In New York June 23

NEW YORK CITY—The fifth National Store Modernization Show will be held in the New York Coliseum, June 23 through 26, 1958, it was announced by Exposition Management Corp., producer of the show.

As in the past, the show will be sponsored by the Store Modernization Institute.

Exposition Management Corp., 51 E. 42nd St., will be in complete charge of the operation and production of the show.

Betz Names Markson Assistant to Gen. Mgr.

DANVILLE, Ill.—H. Blake Thomas, general manager of the Betz Div. of Bohn Aluminum & Brass, has announced the appointment of Wesley H. Markson as assistant to the general manager.

Markson comes to the Betz Div. from McQuay, Inc., Minneapolis, where his last assignment was manager of sales promotion. He had been with McQuay for the past 17 years.

Markson attended Dunwoody Industrial Institute, Minneapolis, and the University of Minnesota.

Westinghouse Cooling Div. Ups Cott to V.P.'s Aide

STAUNTON, Va.—William B. Cott has been named assistant to the vice president of Westinghouse Electric Corp.'s air conditioning division here, it was announced by Bruce D. Henderson, vice president and division manager.

In his new post, Cott will assume responsibility for the division's wholesaling branch operations. In addition to his new duties, he will continue to serve as manager of the applied equipment department, a post he has held since 1955.

Permaglas Names Burleson, Halket to New Positions

KANKAKEE, Ill.—In a streamlining of the marketing organization of Permaglas Div., A. O. Smith Corp., W. T. Halket, general sales manager of domestic water heaters, has been named to the new post of marketing director.

J. W. Burleson, general sales manager of heating and air conditioning equipment, has been upped to general sales manager of the division.

Denver RACCA Unit To Join National Group

CLEVELAND—Refrigeration & Air Conditioning Contractors Association of Denver has filed its application for membership with RACCA National, according to Ray Kromer, executive vice president.

T. C. Alexander of T. C. Alexander Co., RACCA member since 1946, spearheaded the management for national affiliation, it was explained. Ralph W. Tolino is president of the Denver association and W. V. Burbank is secretary-treasurer.

Donald R. Brown Dies

ROCHESTER, N. Y.—Donald R. Brown, 51, commercial sales manager at Chapin-Owen Co., died recently in his home. He had been associated with the firm for 20 years and was a member of the American Society of Refrigerating Engineers.

For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

Only 25¢ each.

La. Army Base To Get 69 Packaged, Some Room Units

MANSFIELD, La.—DeSoto of Airtemp room air conditioners.

Thirty of the "packaged" conditioners will be 8-ton models, 39 will be 5-ton versions, according to the contractor.

Claimed to represent one of the largest air conditioning jobs ever contracted in the state, the installation will consist of 69 Chrysler Airtemp "packaged" refrigeration, in estimating the con-

tract with the army unit.

"This is the biggest single installation I know of in this area," it was pointed out by Barr.

C. M. Barr, manager of Airtemp's New Orleans division, worked closely with dealer John Sturdivant, owner of DeSoto Re-

air conditioners, plus a number of job and negotiating the con-

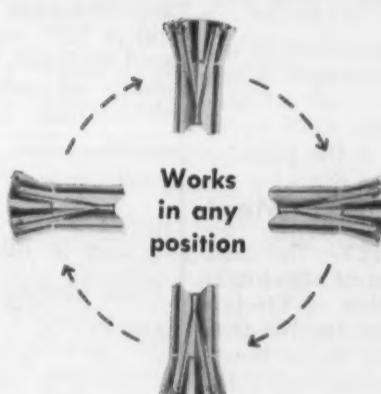
Farr Completes 28,000-Sq. Ft. Plant Addition In Calif.

EL SEGUNDO, Calif.—Completion of a new 28,000-sq. ft. addition to its plant here has been announced by the Farr Co. here.

The two-story glass and red brick structure was designed to increase both manufacturing and engineering facilities for "Far-Air" filters and other types of air filtration equipment, it was added.

SIZE THERMO VALVES CLOSER... AND SAVE with Alco Venturi-Flo Distributors

TOTAL PRESSURE DROP WITH 36" OF FEEDER TUBES: 5 PSI AT 25% CAPACITY • 25 PSI AT 150% CAPACITY



FULL DISTRIBUTOR EFFICIENCY

No nozzles to install or size.
One Venturi-Flo replaces distributors requiring up to 6 or 7 nozzles.
Works in any position.

COMPLETE RANGE OF SIZES

See your Alco wholesaler or write for Bulletin 188-57

Buy ALCO... the System Shows the Difference



ALCO VALVE CO.

853 KINGSLAND AVE. • ST. LOUIS 5, MO.

The one complete line of refrigerant controls that insures product quality: Thermostatic Expansion Valves, Refrigerant Distributors, Solenoid Valves, Suction Line Regulators, Flooded Evaporator Controls, and Reversing Valves.

Real Cool Farming**Custom-Conditioned Cab Keeps Chattanooga Crop Cultivator Comfy-Cozy**

CHATTANOOGA, Okla. — metal cab on top of his tractor. How ya gonna keep 'em down Ansle Mfg. Co. of Ulysses, Kan. custom built the air conditioned cab for him at a total cost of about \$700.

Air condition their tractors and they'll stick.

At least that's what kept farmer Floyd Bryant at work plowing his fields.

Told by physicians that the sun aggravated a skin ailment so much he would have to quit farming, Bryant hit on the idea of mounting an air conditioned

"It's been worth every cent," Bryant says. "All my neighbors have offered to help me farm this year. One fellow said he just had to drive my air conditioned tractor for one day. I told him he'd have to drive it at least a week or not at all."

Insulation Distributor-Contractors To Meet In San Francisco Sept. 17-20

SAN FRANCISCO—Features at 10 Thursday morning, Sept. 19 and Sickles will make his address. E. L. Melton will discuss "Warehouse Inventory Management" at 10:30 and Carr will report at 11, the announcement stated.

In addition, reports by W. J. Donahoe of the labor relations committee, Fred A. Burns, public relations committee, Conrad L. Wiegers, standards committee, Martin H. Hilt, associate member relations committee, and W. M. Murfin, regional associations committee will be heard.

Talks on the four-day program include one by C. W. Sickles, president of International Association of Heat & Frost Insulators & Asbestos Workers; a report by Merrill D. Carr, IDCNA representative on the National Joint Board for settlement of jurisdictional disputes; and a speech on standardization of industrial bidding and measurement by J. V. Welch of Los Angeles, technical service unit of Owens-Corning Fiberglas Corp.

First general meeting convenes Wednesday morning, Sept. 18. One of the speakers will be W. N. Hartman of Armstrong Cork Co., who is to discuss "Credit and Collection" at 10:40. The panel discussion follows at 11:20.

General meeting reconvenes

RSES Convention

The 20th Annual Convention of the Refrigeration Service Engineers Society was inadvertently omitted from "What... When... Where—A Guide to Coming Events" in the Aug. 26 issue. The convention will be held from Nov. 16 through 19 at the Morrison hotel in Chicago.

180 Manufacturers To Support 'Live Better Electrically'

NEW YORK CITY—One hundred and eighty electrical manufacturers have pledged their support for the industry-wide "Live Better Electrically" program, as a result of a planned series of contacts with top manufacturer executives, it was announced here.

The manufacturer contact program was initiated and spearheaded by the Edison Electric Institute and member utilities participating in the long-range market development campaign.

Utility executives and Live Better Electrically regional managers conferred with sales, advertising, and public relations officers of firms engaged in production of electrical equipment for consumer and industrial use.

Robert E. Boian, manager of the LBE program, said this canvass of the electrical manufacturing field revealed that during 1958 there would be more specific and intensive tie-in advertising and promotion keyed to the electric living theme.

Westinghouse To Recall 500 More In Mansfield

MANSFIELD, Ohio—Following the return to work of about 100, Dean B. Fighter, works manager of the Westinghouse Electric Corp. plant here, announced 500 more workers will be called back by Sept. 9.

The recall is attributed to "a noticeable pickup in the appliance lines and the schedule for 1958 major appliances which have just gone into production," Fighter stated.

By Sept. 9, employment at the local plant will run about 4,700, it was pointed out. Earlier this year, approximately 1,000 workers were laid off at the plant.

Electric Groups To Meet

NEW YORK CITY—The 22nd annual conference of the International Association of Electrical Leagues is planned for Oct. 2 through 4, at the Sinton hotel, Cincinnati, according to John Biggi, corresponding secretary.

Air Conditioner Sales Rise**Houston Sales for 6 Months Set Record**

HOUSTON, Texas — Reports of electrical equipment sold in Houston Lighting & Power Co.'s service area during the first six months of the year show that sales of air conditioners reached an all-time high during this period.

Central air conditioner sales —2 tons and up—increased 59% over sales for the same period in 1956, with 6,853 sold this year. Room units of all sizes gained 13% for a total of 45,418 units.

The decrease in the sale of major appliances — including ranges, refrigerators, freezers, and dishwashers — follows the national trend, reflecting the nationwide decrease in home construction, the utility said. This trend points up the fact that dealers must concentrate their efforts increasingly toward the older home market, which is "wide open" for appliance sales, the utility stated.

The consolidated report was compiled by HL&PCO from individual reports submitted by the

area's distributors, jobbers, and factory connected sales agencies, it was explained.

Figures on air conditioners, refrigerators, and freezers for the first half of the year are shown below:

ROOM COOLERS	
1st 6 mos.	1st 6 mos.
1957	1956
1/2 ton (window) ...	209 226
3/4 ton (window) ...	4,349 6,385
1 ton (window) ...	27,101 25,378
1 1/2 ton (window) ...	10,049 5,599
2 ton & up (window) ...	3,573 2,535
2 ton & up (console) ...	137 29
Total Room Coolers 45,418 40,152	

CENTRAL UNITS	
2 ton	477 824
3 to 4 ton	2,004 *
5 ton	1,523 *
7 1/2 to 15 ton	371 *
Total Central Units 6,853 4,312	

REFRIGERATORS, FREEZERS	
Refrigerator (includes 2-door combination refrigerator-freezer) 13,990	16,602
Refrigerator (built-in)	384 332
Food freezer	3,585 4,008
Food freezer (built-in)	94 134

*Breakdown as to size of units was not reported in 1956.

Philadelphia Distributor Sales Hit 2,943

PHILADELPHIA — Distributor sales of air conditioners in this five-county area were reported by the Electrical Association of Philadelphia to have reached 2,943 in July as compared with 2,895 for the same month in 1956.

Total sales through July 31 this year skidded to 45,486 from the 49,147 sold in the like period a year ago.

Refrigerator sales by distributors also declined to 3,373 in July as against 5,582 for the same month last year and total sales up to July 31 thudded

West Penn Power Sales Hit 603 In July

GREENSBURG, Pa.—Room cooler sales for July, reported to West Penn Power Co. by dealers in its service area, totaled 603, up from 365 sold last July. The first seven months' sales were 2,054 as compared to 1,505 for the same period of 1956, it was indicated.

Home freezers sold in July totaled 567, against 442 in July, 1956. The first seven months' total in 1957 was 2,625 as compared to 2,552 in 1956.

Sales of refrigerator-freezer combinations in July aggre-

gated 582. Sales to the end of July were 2,485. No figures were given for 1956.

Domestic refrigerator sales for July were 1,385, down from 1,815 in July, 1956. Total sales to July 31 amounted to 7,913, well below the 10,347 of the corresponding period of 1956, it was pointed out.

In dehumidifiers, July sales were 93, up from the 83 figure for July, 1956. The 357 total for the first seven months more than doubled the 1956 figure of 177.

ARE you in need of a "just right"

man to fill a slot in your organization—the man you are looking for will be reading the

NEWS' CLASSIFIED ADS

(See Page 23)

We're Specialists In

Refrigeration

Air Conditioning

Electric Motors, Too!

PARTS AND SUPPLIES

Over 10,000 items...most complete list in the world... carried in stock! You'll find them all in the NEW Harry Alter Dependabook No. 167 for Fall-Winter, 1957-58. Write on your letterhead for the DEPENDABOOK

Chicago 16, Ill. 1717 S. Wabash Ave.

New York 13, N. Y. 134 Lafayette St.

Dallas 7, Tex. 122 Parkhouse St.

Atlanta 10, Ga. 690 Stewart Ave., S.W.

FREE PARKING AND FAST COUNTER SERVICE AT THESE 4 BIG HOUSES

New Champ!

MEET SOME MORE
OF THE BOYS IN
MY CORNER!

KOCH
JET forced draft
COOLING TOWER
forced draft—no fan

Elmer Freemire
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Baltimore, Md.

William J. Meek
P. O. Box 2602
Charlotte, N. C.

Ronald Newton
2990 Flat Shoals Rd.
Decatur, Ga.

Harry Hadley and Associates
Marietta, Ga.

Write today for the name of the Koch Representative nearest you.
KOCH
ENGINEERING CO., INC.
321 West Douglas
Wichita, Kansas

For more information about products advertised on this page use Information Center, page 14.

FHA Circulates Text Of Bulletin on Room Air Conditioners

WASHINGTON, D. C.—The Federal Housing Administration has recently added room air conditioners to the list of easily removable real estate items that can be included in its home valuations (See Page 1, Aug. 26 issue of NEWS).

Following is the text of the bulletin on the subject that was sent to all FHA field offices on Aug. 8. It is labeled No. 1682.

TO: DIRECTORS OF ALL FIELD OFFICES
SUBJECT: ELIGIBILITY OF WINDOW-TYPE AIR CONDITIONING UNITS

Paragraph 911(2) of the Underwriting Manual excludes "air cooling units of the console and window-types" from being included in the lists of Easily Removable Real Estate Items.

In addition, Paragraph 2 of Mechanical Engineering Bulletin No. ME-12 states, "Unit Conditioners designed for installation in walls are considered acceptable; however, units mounted in windows or free standing units not having an extension or duct through an exterior wall, are not regarded as a permanent part of the structure."

Without any intent to encourage the submission of these types of units as part of the security for FHA insured mortgages, it has been determined to remove present prohibitions in the Underwriting Manual against recognizing these units as Easily Removable Real Estate Items and to revise ME-12 to remove any restrictions therein.

Determinations as to eligibility, for inclusion on a list of Easily Removable Real Estate Items will continue to be made by the field offices. These determinations are based on the listed criteria in Paragraph 911(2) of the Underwriting Manual.

Very truly yours,
Charles E. Sigety
Deputy Commissioner

J. R. McConnell Dies

LOUISVILLE, Ky.—John R. McConnell, 69, former vice president and director of advertising of American Air Filter Co., died recently following a short illness.

McConnell retired last year after 33 years in the air filter business. He was active in many trade associations and organizations. For about 20 years he was secretary-treasurer of the National Association of Air Filter Manufacturers and its successor, Air Filter Institute.

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SPRING
COMPENSATED!
LIQUID INDICATORS

E-Z-SEE Liquid Indicators with spring-compensated gaskets are positively leak-proof—proven by hundreds of thousands now in use. Suitable for Freon-12 and Freon-22 to pressures of 500 psi.

AVAILABLE TO THE TRADE THRU WHOLESALERS EVERYWHERE

REMCO INC.
ZELIENOPPLE, PA.

Trying to find
the right man for a
hard-to-fill vacancy
the NEWS' Classified
Ads are read by your
man.
Place your ad today!

Farr Ahead of Other Announcers

Upper Darby Dealer Delights Viewers By Doing The Unusual on Spot TV Commercials

UPPER DARBY, Pa.—Mort gain when they buy it for Farr, air conditioning and appliance dealer who often does his own spot commercials on a Sunday evening TV program, has delighted viewers for six years by doing things no other announcer would think of doing, according to NARDA News.

For example, when he learned a friend was trying to sell a custom-made \$12,000 silver inlaid saddle recently, Farr said, "Let me see if I can sell it."

The following Sunday, Farr appeared on TV dressed in western garb, and began extolling the wonders of the custom-made saddle.

"This saddle cost \$12,000 new," he pointed out, "but someone is going to get a terrific bar-

After giving a few close-ups on the silver work, Farr told customers, "And though I can't give you such a terrific bargain on these new air conditioners I now have in stock, I guarantee you'll be happy with them because they're special this week for only \$....." The commercial sold plenty of air conditioners, and the saddle to boot.

Another time, viewers were surprised to find nothing on their TV screens but a refrigerator. After a period of respectful silence, the door of the refrigerator opened, and out stepped Farr. A selling message on safety followed.

Room Air Conditioners

Omaha Area Dealers Sell 426 Room Units

OMAHA, Neb.—June sales reported by 93 appliance dealers in the area covered by Omaha Public Power District show 426 and 451 this year to June 30. room air conditioners sold, for a total of 1,273 to June 30. Sales of dehumidifiers amounted to 23 in June and 52 for the first six months.

Chattanooga Air Conditioner Sales Up

CHATTANOOGA, Tenn.—1956.

Sales figures for the month of June as compiled by the Electric Power Board of Chattanooga, show dealer sales of commercial and household air conditioning

were for household use. Total air conditioning sales represented a dollar volume of \$796, far surpassing June sales in 215.55, according to EPB.

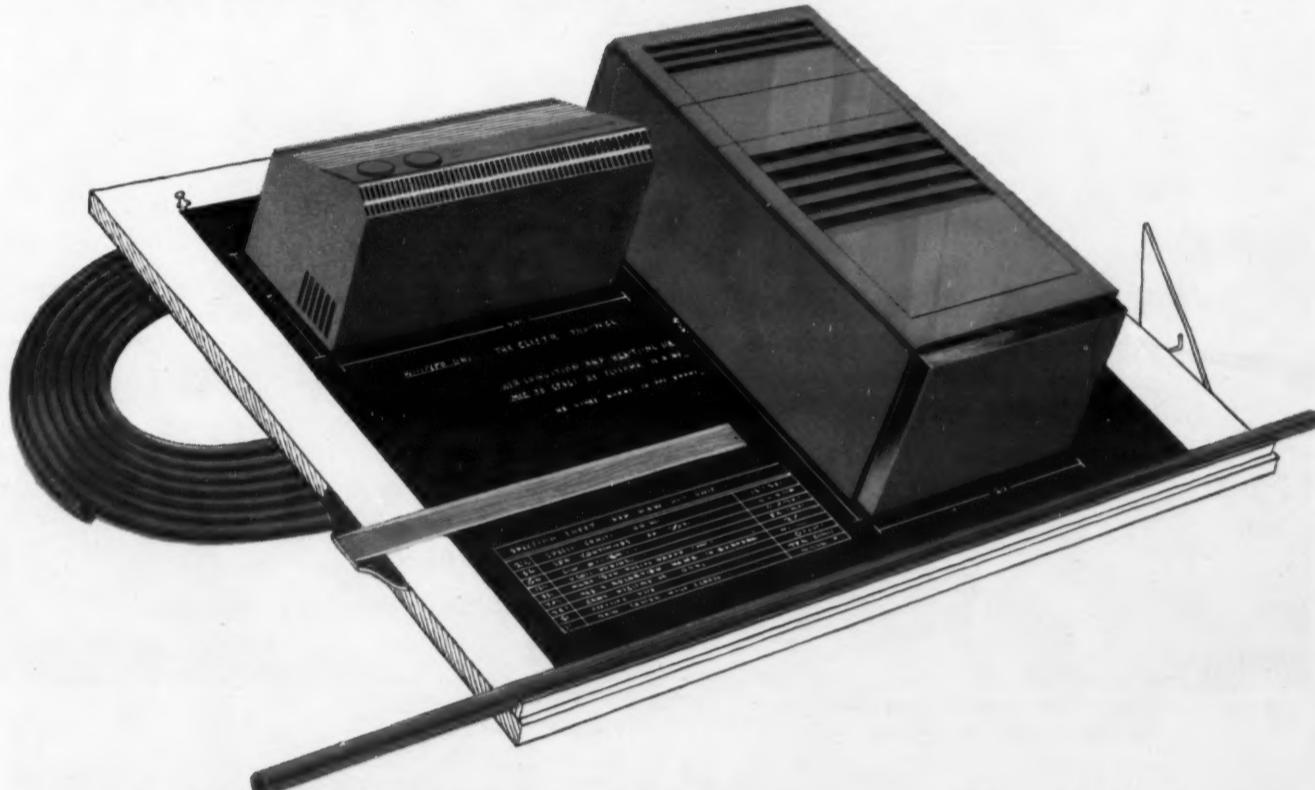
Thieves Drill for Air Conditioners

FT. LAUDERDALE, Fla.—Five air conditioning units, valued at \$1,215, were recently stolen from Hill-York Broward Corp., here.

Missing were four 1-ton units and a 2-ton unit, it was explained.

Thieves reportedly drilled a

For your REFRIGERATION, AIR CONDITIONING and HEATING UNIT NEEDS . . .



Specify Quality-Controlled

PHELPS DODGE COPPER TUBE!

- All tempers and sizes for use in original equipment.
- Straight length tube tempered to meet your bending and expanding specifications.
- Quality-controlled throughout manufacture to assure finest tube properties.
- Tubes degreased and capped, or dehydrated and sealed, if required.
- Deliveries geared to your production requirements.

First for Lasting Quality
from Mine to Market!



PHELPS DODGE COPPER PRODUCTS
CORPORATION

SALES OFFICES: Atlanta, Birmingham, Ala., Boston, Buffalo, Charlotte, Chicago, Cincinnati, Cleveland, Dallas, Detroit, Fort Wayne, Greensboro, N. C., Houston, Jacksonville, Kansas City, Mo., Los Angeles, Memphis, Milwaukee, Minneapolis, New Orleans, New York, Philadelphia, Pittsburgh, Portland, Ore., Richmond, Rochester, N. Y., San Francisco, St. Louis, Seattle, Washington, D. C.

Inside Dope

By GEORGE
F. TAUBENECK

(Concluded from Page 1, Col. 1)
for his mother;

- (4) Bought an automobile;
- (5) Banked the remainder to pay his income tax.

All of which proves what America knows already; i.e., Van Doren is a smart young man.

Incidentally (Small World Dept.) Charlie's father, Mark Van Doren, was a University of Illinois classmate of Frank Cockrell, who founded this publication in 1926. Mark Van Doren was Editor of the *Illinois Magazine* when Mr. Cockrell was its Business Manager. Also, Mr. Cockrell managed Van Doren's campaign for the presidency of the Senior Class.

Ideas for This Week

The big things, the worthwhile things in this country always have been the result of extra effort, of something a little beyond expectations. To expect that extra effort when money incentive is lacking is to cast human nature into a new and unfamiliar mold.—CRAWFORD H. GREENWALT, President, DuPont.

The worth of an idea transports men; and, once having taken service under a favorite idea, they proceed to forget that there are other good ideas, with which their new darling must be made consonant, lest the good idea turn into a hideous and fatal error.—JOSE ORTEGA Y. GASSETT.

Air Conditioning Humor

Recently "Dope" collated the few air conditioning anecdotes

extant, and hollered for more. Response, while not overwhelming, is pleasing. Read on, and you won't weep.

Liveliest, bounciest young man "Dope" has met in a month of Sundays is Russ Eddy, executive vice president of Marco Industries, for instance. Brother Eddy contributes to our cumulative Fund of Air Conditioning Humor (after perusing the "Inside Dope" which begged for more of the same) this gem:

"Wonderful thing about an air conditioner is that it cleans the air and is great after a big party in the house. The next morning, when you come into the party room, your non-air conditioned hangover is complicated by the smell of old cigar and cigarette butts. If your recreation room is air conditioned, however, you don't get that smell of old cigars and cigarettes."

"You get the smell of old, COLD cigars and cigarettes."

Russ further quotes his columnist friend, Robert Sylvester:

"The air conditioner has lots of ways to teach you to mind your own business and leave it alone. It's got one thing that's a beauty. It freezes itself over! There's nothing like coming home late or waking up early and finding that window box looking like a big popsicle, all snowed over, while out on the sidewalk the temperature is in the 90s."

"When this happens you have to turn the machine on Exhaust and this melts the snow away. The melted snow drips down on the rug and is sort of messy but the conditioner goes back to work."

"Another thing no decently educated air conditioner will stand for is an open window. You open a window and the conditioner just sucks in the fresh hot air from the backyard, sends it through its filter, and

tosses it out onto the sidewalk. Meanwhile, the cold air gallops straight through the house and goes out to cool off the backyard. An hour or so of this and the filter is completely clogged. Then you take the machine apart and clean the filter."

"Cleaning the filter is more fun. You find the most wonderful little things, like dead bugs. You also find that your hands get covered with a grease which is tougher to lose than tattoo marks. Living with an air conditioner is like living with an old wife. There's nothing you can do about it, no matter how hard you try."

More Fun from Readers

Phillips Refrigeration
Texarkana, U. S. A.

I noticed in your "Inside Dope" a request for Air Conditioning Humor. Here's a good one, we think.

We had an urgent call. The window unit was making "a clattering noise, something bound to be wrong with the motor! Go on in back door." Our serviceman found the trouble.

When the customer returned she found his ticket and five marbles in a neat pile on the table, with this note, "Mrs.—here are your missing marbles."

Then there was the woman who wanted us to come quick, and check her air conditioner. She thought the SULPHUR-DRUG HAD ALL LEAKED OUT....

I could go on and on....
OLLIE PHILLIPS

Penn Controls
Goshen, Indiana

I begin my reading each Monday with "Inside Dope" and enjoy the anecdotes very much. Your narratives on air conditioning brought one to my mind which might be enjoyed by you and/or anyone else who doesn't mind "Texas Brags."

It seems that upon his departure from this world of trials and tribulations one unquestionably good soul immediately entered the Pearly Gates, where all was smooth and tranquil (apparently no air conditioning problems).

After a while he became curious about how the folks in the dark region were faring, and requested St. Peter to allow him a few days visit to the Inferno. After a couple of weeks the good saint began to be concerned that the curious one had not returned. So Saint Pete elevated him back to Heaven, and asked him why he had remained overlong in such a hot place. The errant's reply:

"I met several oil men from Texas down there, and they had air conditioned Hell."

O. B. FAULK

Exit Smiling

Sixth-grader weekended in Washington, D. C., on one of those school jaunts. With the troop he climbed the Washington Monument, awed at the Jefferson and Lincoln Memorials, visited Mount Vernon, watched Congress in session.

"What was your biggest thrill?" his mother inquired upon Sonnyboy's return home.

"The pillow fights on the train," he exulted.



NOW...Wagner's high starting torque Integral hp single-phase motor is available in the latest NEMA frame sizes!

The well-known Wagner Type RA Motor is the work-horse of the single-phase motor field. This repulsion-start, induction-run motor combines the best features of the repulsion motor in starting, with those of the induction motor while running at rated operating speeds—ideal for applications requiring high starting torque.

No other single-phase motor has its ability to continually start heavy loads or perform with such complete satisfaction under continuous service.

Specifically designed for compressors, pumps, machine tools, grinders, and conveyors; it is preferred for many other single-phase high inertia or heavy friction starting applications because of its ability to start such loads with low current and with minimum light flicker.

Let a Wagner field engineer show you how these motors can be applied to your needs. Call the nearest of our branch offices, or write us.

OLD FRAME SIZE	NEW FRAME SIZE
203	182
204	184
224	213
225	215
254	254U

4 pole (1750 RPM, 60 cycle and 1450 RPM, 50 cycle) ratings are interchangeable in mounting dimensions with capacitor-start motors of the same ratings.

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6441 Plymouth Ave., St. Louis 14, Mo., U.S.A.

H57-II



ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES • AUTOMOTIVE BRAKE SYSTEMS—AIR AND HYDRAULIC

For more information about products advertised on this page use Information Center, page 14.

Stewart-Warner Offers Free Standing, Water-Cooled Commercial Air Conditioner

LEBANON, Ind.—"Flexible-Air," a "free standing, hermetically-sealed air conditioning unit with a cooling capacity of 65,000 B.t.u.h. and requiring but 36 by 22 in. in floor space," has been announced by the Heating & Air Conditioning Div. of Stewart-Warner Corp.

For use in stores and offices, Flexible-Air, depending upon the requirements of the room in which it is located, may be fitted with additional four-way adjustable louver deflectors to produce a conditioned air pattern as needed up to 360° surrounding the unit, the company said.

This 5-hp. air conditioner, designed to blend into its surroundings, has a fully hermetically-sealed unit, it was pointed out.

The complete refrigeration cycle, including all controls, is an integrated unit, easily removed for unitary service, according to the announcement. All connections for installation are easily made from the front without removing the cycle, the company said.

FOR WASTE WATER OR TOWER APPLICATIONS

"Water cooled, Flexible-Air is designed for either waste water or water tower applications for waste water installations," it was explained. "A factory installed water valve bellows is connected to the high pressure side of the refrigeration system for actuating a water control valve. A water control valve is not required for tower cooling installation."

'UNIKNOB' CONTROL

"Operation is most simplified. As the 'uniknob' control (single knob, multiple duty switch), located in an easily accessible control compartment on the front of the casing is rotated from the 'off' position to the first position the fan only comes 'on,' but not the compressor.

"When the knob is rotated to the second position, the compressor comes 'on' controlled by the integral thermostat at the highest thermostat setting (about 95°). Further rotation lowers the room thermostat temperature setting (to a minimum of 60° at the end of the knob rotational travel).

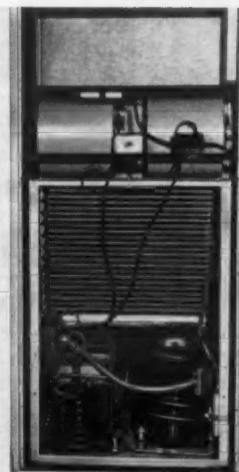
"Fan operation is continuous when Flexible-Air is operating in any control position except 'off.' Compressor operation is intermittent as called for by the temperature of the room as it is sensed by the integral thermostat."

'TUBE-IN-TUBE' CONDENSER DESIGN

The latest "tube-in-tube" design of the condenser unit is said to assure high heat transfer from refrigerant to cooling water. The compressor is hermetically sealed.

"Twin multi-blade fans permit operation at low speeds and low noise level," it was stated. "Fan motors are ring mounted in rubber for quiet, vibrationless operation and are lubricated for life."

Contained in a baked enamel cabinet which measures 36 by 22 by 77 1/4, the Flexible-Air unit is available for single or three-phase electrical connections.



HERMETICALLY sealed, the entire cooling cycle of Stewart-Warner's new Flexible-Air air conditioner is removable.

Carrier Names New Nashville Outlet

SYRACUSE, N. Y.—Appointment of Andrews Distributing Co., Inc. as the new Nashville-Chattanooga area distributor for Carrier Corp. has been announced by Russell H. Gray, vice president of the air conditioning manufacturer.

J. R. Andrews, a leading figure in the appliance distributing picture in central Tennessee for the past 26 years, is president of the Tennessee distributorship.

Andrews headed Radio & Appliance Corp. of Nashville before organizing the new company. Prior to that, he was an appliance department manager for Keith-Simmons Distributors, and also served for seven years as sales manager of I. J. Cooper

Rubber Co. of Nashville, it was pointed out.

Associated with J. R. Andrews will be his son, John N. Andrews, who entered the appliance business in 1951. He later sold commercial and residential air conditioning and heating equipment in Davidson County. He attended Vanderbilt university.

Andrews Distributing will handle Carrier's full room air conditioner and residential line as well as a complete range of self-contained equipment for commercial and industrial applications.

Carrier applied systems will continue to be sold through the M. T. Gossett Co., Nashville, and J. W. Brooks & Son, Chattanooga, in central Tennessee.

The new Carrier distributor will be located at 527 Eighth Ave. S., Nashville, it was indicated.

Donley To Form Own Marketing Business

INDIANAPOLIS—Harold B. Donley, manager of distribution, Bryant Mfg. Co., a subsidiary of Carrier Corp., is leaving the company to form his own marketing consulting business. He is moving from Indianapolis to Phoenix, Ariz.

Donley has been active in the marketing, sales, and management of air conditioning and heating equipment, major appliances, electric housewares, and radio receivers for 36 years. He began his business career in 1921 with Westinghouse Electric Corp.

With Westinghouse for 26 years, he left in 1947 to become vice president and general manager of the Hunter Fan & Ventilating Co.

HALSTEAD & MITCHELL ENGINEERS PROVE . . .

A 100-TON COOLING TOWER CAN BE QUIET



HERE ARE TWO, NEW LARGE SIZES ADDED TO HALSTEAD & MITCHELL'S COMPETITIVELY-PRICED EC COOLING TOWER LINE

THE EC LINE. The addition of the 80- and 100-ton capacity towers extends the range of the more-value-per-dollar EC line. All 12 models, 5 to 100 tons, have outstanding features never before offered in this price group.

These include increased corrosion resistance due to rugged, 14-gage steel cabinets (12-gage sumps on the largest sizes)—weatherized by application of Vinsynite, Vinyl Zinc, and Chlorinated Rubber coatings. Exclusively, H&M offers pressure-creosoted wetted deck surfaces with the industry's only 20-Year Guarantee against rotting or damage due to fungus attack. New, sealed fan bearings are lubricated for life. Gravity-type distributing pans reduce pumping head, and cut down windage losses. Sump water levels are automatically controlled by integral float valves.

QUIET. Large diameter, four-bladed, deep pitch fans are belt-driven at low speeds by special weather and splash-proof motors. The EC-80 and EC-100 are driven at speeds of only 400 and 450 RPM. They're really quiet! Twin fans and drives power the three largest sizes, and all fans are of zinc plated, chromate dipped mild steel.

EC Series Cooling Towers are available in capacities of 5 thru 100 tons in standard, factory assembled models, or as Take-Aparts (ECK Series) for difficult-to-get-at installations. Residential, direct-drive ECD Series, with all the custom features and also competitively priced, come in capacities of 2 thru 7 1/2 tons. Call your nearest Halstead & Mitchell wholesaler for delivery and prices or write: Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.

WRITE FOR COMPLETE DETAILS

HM
Halstead & Mitchell

What's Going On in

HEATING

News of Methods, Products, People

'Styled for Eye-Appeal'

Gas Furnace-Air Conditioner Can Be Built-In, Combines 3-Stage Firing, Modular Heat Exchangers, 'Regulaire'

CLEVELAND — Styled for eye-appeal like modern household appliances, a new gas furnace-air conditioner that can be built-in anywhere in the home was introduced by Perfection Industries, Div. of Hupp Corp. here.

Called the 70th anniversary line, the new units are specifically adaptable to year-round air conditioning, according to Carl



NEW PERFECTION Industries appliance-styled furnace-air conditioner can be installed anywhere. All ductwork, piping, and wiring can be completely hidden.

BUGGY-WHIP NAMEPLATES on your jet-age products?

Stop losing production line dollars on slow, costly rivet-mounted nameplates that scrape, scratch, become hard to read.

Switch to THINPLATES®, the adhesive backed anodized aluminum foil nameplates!

Thinplates mount in a moment to any surface, bond permanently. Thinplates' anodized surfaces never scratch, scrape or peel, stay bright and legible for the lifetime of aluminum.

Thinplates go anywhere and stay there! For identification, decoration, nomenclature, operating instructions, Thinplates are used on everything from aircraft to skillets.

Don't entrust your product's name to cumbersome rivet mounted nameplates and easily damaged paper decals—use anodized aluminum Thinplates that save time and dollars.

FREE! Send today for samples of Thinplate that will spark your product design and economy ideas. Write on your letterhead to Department AC9.

Users of Thinplate include:

Avco Manufacturing Co.
Bendix Aviation Corp.
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General Motors Corp.
Minneapolis-Honeywell Regulator Co.
Radio Corporation of America
Sperry-Rand Corp.
Sunbeam Corp.
Westinghouse Electric Corp.
... and many more of the biggest names in American industry!

P **PARK** nameplate company, inc.
34-10 Linden Place, Flushing 54, N.Y.

THINPLATE is the Park name for its selective color anodized aluminum foil nameplates in .003" and .005" gauges, with adhesive backing.

W. Millsom, vice president in charge of sales.

"Cooling units are designed expressly to match the heating systems and can be made part of the initial installation or added at a later time," he said.

Cabinet, blower, and motor are made to handle cooling as well as heating.

Six Models

Six furnace models range in capacity from 75,000 to 200,000 B.t.u.h. Height and depth of all units are the same: 56 in. high (76 in. with cooling coil) and 29 in. deep. The width varies with capacity, which is determined by the number of heat exchangers in the furnace.

The new Perfection furnace is the first to combine three-stage firing, modular heat exchangers, and patented "Regulaire" system, Millsom declared.

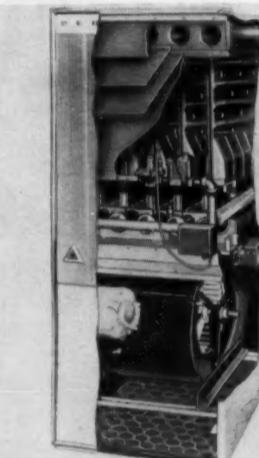
These features insure uniform heating from floor to ceiling, with temperature variations of less than 2° F., he claimed. The three-stage firing controls the heat and Regulaire controls the air flow.

Regulaire controls cooling as well as heating with automatic compensation. Only one thermostat need be set.

Modular heat exchangers, each representing 25,000 B.t.u.h. capacity, are arc welded to provide continuous heat flow without "hot spots."

Aluminum Finish Baffle Radiates Heat Back

A new insulating principle using an aluminum finish metal



FURNACE is supplied in capacities from 75,000 to 200,000 B.t.u. and summer cooling unit can be made part of initial installation or added later.

baffle radiates heat back into the furnace and eliminates the need for bulky, heat absorbing insulation, Millsom said. The metal baffle is ridged to eliminate booming or "oil canning" as the furnace heats and cools.

This development also makes possible zero clearance installation without affecting efficiency, he said. Air return can be from the bottom, back, or either side.

All ductwork, piping, and wiring can be hidden from view. Vibration and noise is completely isolated. For these reasons, he said, units can be installed anywhere, even in kitchens or alcoves.

Styled by Scherr, Smith, & McDermott, designer, the furnace-air conditioner has aluminum finish expanded metal grille and white baked enamel bottom panel with chrome trim.

The front grille can be removed for service and adjustments, giving access to electrical controls, pilot, and burners.

Cast iron raised port burners, with each port operating as a single port with "carry over," give smooth lightup and positive ignition without "popping," Millsom said.

Other features include: no-lint pilot burner, no primary air used, 100% gas shut-off, 24-volt electrical system, and heavy rust treated baked enamel 22-gauge steel cabinets.

Expert Offers Suggestions

Points Out Some Flaws In FHA Heating, Cooling Requirements

SAN FRANCISCO — Some inconclusive and unfair suggested changes in the Federal Housing Administration's minimum property requirements as they affect heating and air conditioning equipment were offered to FHA officials here by Roland R. Taylor, chief laboratory and application engineer for Fraser & Johnston Co.

In making his comments, Taylor spoke in behalf of the Warm Air Heating Institute of Northern California. He is said to be an expert on building codes and safety regulations and to have performed a valuable service to the industry in the adoption of the San Francisco building code.

His comments have been forwarded to FHA headquarters in Washington, D. C. and to the National Association of Home Builders. Ralph J. Johnson, director of the NAHB construction department and research institute, said they were being put to good use.

Cites Specific Flaws

Taylor's remarks were directed at a set of proposed new minimum property standards. Copies of them have been submitted to the industry and trade associations for comment.

Taylor particularly pointed out flaws in requirements for perimeter insulation, approval or certification of oil-fired furnaces, heat exchangers in gas-fired furnaces, cut-off switches and self-generating controls for gas-fired furnaces, and sensible and latent heat capacity labels on year-round air conditioners.

This is what Taylor told FHA officials:

"There are four or five points of varying importance where we feel that changes in the proposed requirements as published would make them more realistic.

APPROVAL OR CERTIFICATION.

"In 1103-7.2 we find: 'cast iron or steel furnaces shall meet the American Standards Association Approval Requirements when gas fired, except that steel furnaces shall have a combustion chamber of not less than 16 gauge unless the material used is of equal or superior quality; when oil fired shall bear Commercial Standards label CS104 or CS195 or shall be certified by the manufacturer as meeting CS104 or CS195.'

"This requirement while intending to set a standard of safety and efficiency does so for gas-fired furnaces and leaves much to be desired for oil-fired furnaces.

"Gas-fired furnaces must bear the AGA Seal of Approval, while oil-fired furnaces need no seal of approval, and need not be tested by any impartial agency.

"Certification by a manufacturer of compliance to a set of requirements such as CS195 are

inconclusive and unfair because:

Thinks Requirements Are 'Unfair'

"(a) Many oil-fired furnace manufacturers do not have the necessary instruments or facilities to adequately test the equipment. It is easy to conduct superficial tests with inadequate facilities and a company can easily convince themselves that they satisfy all of the requirements when they actually do not.

"(b) Specially trained technicians are required as AGA or UL will be the first to verify to adequately run tests as complicated as those in CS104 and CS195. Thermocouples placed in the wrong area or improperly welded at the junction of a sheet metal may read as much as 100° from metal temperature.

"What a manufacturer considers to be an adequate seal between the flue products and the circulated warm air may fall far short of satisfaction to a trained technician.

"(c) All gas-fired manufacturers are required to spend an appreciable percentage of their cost of operation for such impartial testing and if an oil-fired furnace manufacturer is allowed to bid competitively against this cost, an unfair situation develops.

"It is therefore recommended that the requirements for oil-fired furnaces be changed to require certification by an impartial laboratory comparable to AGA, such as UL. Without this



SPECIAL COILS WITH COPPER OR ALUMINUM FINS MADE TO YOUR DIMENSIONS AND SURFACE REQUIREMENTS.

CONDENSERS,
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Points Out Flaws In FHA Requirements--

(Concluded from preceding page) stipulation there is definite lack of safety, no assurance of efficiency and no control over life expectancy of oil-fired furnaces.

16 Ga. HEAT EXCHANGERS.

"In Paragraph 1103-7.2 (a) 1 we find in part:—

"Cast iron furnaces shall meet the American Standards Association Approval Requirements when gas fired, except that steel furnaces shall have a combustion chamber of not less than 16 gauge unless the material used is of equal or superior quality."

"(a) The life expectancy of a heat exchanger made of steel or cast iron for that matter, is a matter of design and temperature differences within small areas.

Why Steel Heat Exchangers Give Way

"Two things can cause a sheet steel exchanger to give way. One is excessive temperatures; and AGA testing definitely covers this point. Except where production does not follow design as approved by AGA; AGA approval precludes burnouts.

"However, if in a short distance on a sheet of steel the temperature difference is high, the heating and cooling will cause a seasonal stress and the metal will crack. This action is not a product of metal gauge but is a product of design.

"In neither of these instances will the heavier gauge metal offer more than an additional month or so of life expectancy and probably not that.

Experience Proves AGA Requirements OK'

"Experience in the field has proven the soundness of AGA requirements which permit light gauge metals and which make every effort to solve the problem by insisting on proper design.

"My company has made our exchangers of 18 gauge steel almost exclusively since 1930 and during the Korean War we used a considerable amount of 20 gauge for this purpose. We find no advantage to the heavier gauge.

"(b) While CS195 specifies 16 gauge sheet steel, for furnaces in this classification, it also allows 930° F. above air inlet temperatures. AGA on gas-fired furnaces requires 18 gauge or 20 gauge but limits temperatures to 830° F. above air inlet and CS104 has no gauge requirement whatsoever and allows temperatures of 930° F. above inlet temperatures.

"This constitutes gross inequality of requirement and shows preference to one type of furnace.

"(c) A statement is made in the proposed standards about equal or superior quality of material and no standards are set up for such evaluation.

"It is presumed that stainless steel and aluminized steel is the intent; however, in the case of cracking of a heat exchanger the stainless steel, because of its high coefficient of expansion, is worse than mild steel.

"Since AGA is by far the most complete and specific requirement of the three mentioned in this paragraph it is recommended that AGA be accepted as a standard without additional stipulation concerning gauge of metal.

"It is further recommended that, since CS104 is unchanged since 1949, and is very indefinite and incomplete, it be supplemented with additional requirements to insure safety, efficiency, and reasonable life expectancy.

"CUT-OFF SWITCH & SELF-GENERATING CONTROLS.

"In Paragraph 1103-7.2(4) (6) we find in part:

"*Except for gas-fired furnaces equipped with self-generating controls, a manual disconnect switch shall not be installed in the fan electrical circuit unless such a switch also cuts off the burner.*

"This requirement seems extremely inconsistent. By prohibiting the use of a cut-off switch in the electric line the requirements admit lack of safety when the gas is allowed to burn in the absence of blower operation. To be consistent, therefore, two additional things should be required:

"(1) No manual opening device should be permitted on a gas valve.

"(2) No gas actuated controls should be permitted on forced air furnaces.

Reasoning May Be Enlarged Upon'

"The reasoning behind this, although clear, may be enlarged upon. We as manufacturers were at one time the largest users of gas actuated controls in the United States. We experienced enough difficulty, particularly on horizontal furnaces to decide in 1950 that we would use no gas actuated controls on any forced air furnaces from that time on.

"No forced air furnace is safe to operate as a gravity, and the life expectancy would be very short. The limit switch should not be used as an operating mechanism; it is a safety device exclusively.

"We therefore recommend:

"(1) that the exception be removed from 1103-7.2 (4)(b).

"(2) that no forced air furnace be permitted to use self-generating controls.

"(3) that no manual opening device be permitted to be

used on a unit's gas valve.

"An alternative of course to the above recommendation would be to permit the use of self-generating controls on forced air furnaces but to require that the disconnect switch also cuts off the burner. Many local codes now require disconnect switches at the furnace and they are a great assistance when service is required.

SENSIBLE & LATENT CAPACITY.

"In Paragraph 1104-3.2 we find:—

"Equipment shall be labeled to show capacity (sensible & latent) in B.t.u.h., etc."

"This requirement obviously has as its purpose the rating of equipment in regard to its ability to do work. This we heartily endorse. However, while the rating of a composite factory unit would be rather simple, it isn't clear what should be done when the compressor is remote from evaporator.



Torrington is the one place where engineers work *only* on air moving problems in the development of air impellers supplying the full range of industrial requirements. As a result, more air moving problems are being studied today in Torrington's Research and Development Laboratory than anywhere else in the world. If you have product problems relating to the design, application and performance of air impellers, talk to Torrington.

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THE SERVICEMAN LINE of Testing Gauges, Testing Thermometers, Timers, etc.

PRESSURE GAUGES and Dial Thermometers for all services.

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THE TORRINGTON MANUFACTURING COMPANY
TORRINGTON, CONNECTICUT • VAN NUYS, CALIFORNIA • OAKVILLE, ONTARIO

'Increased Productivity' Seen as Solution to Contractor Profit Problem

Cite Squeeze Between High Costs, Low Profit

DALLAS—"Increased productivity is the number one solution to your profit problem."

This was the theme of a talk given by Howard L. Spindler, vice president, public relations, American Radiator & Standard Sanitary Corp., during the 75th annual convention of the National Association of Plumbing Contractors, held here.

He pointed out that the contractor is now caught in a squeeze between high costs and low profits.

"I don't have to tell this group that the contractor's costs are going up—you're living with it. I don't have to tell you, either, that your customers, whether they are consumers or builders, are always after the bottom dollar—you face it every day. What I do want to tell you is that increased productivity is the number one solution to your profit problem."

Spindler illustrated his point with a drawing of a giant wheel.

"Look at this wheel of productivity," he said. "There are eight spokes radiating from the hub to the rim. Let's examine these spokes and see the part they play in making that wheel firm and strong."

Facilities—How To Test Them

"One of the spokes in our profit-producing wheel of productivity is your facilities—the buildings and equipment you use to serve your customers. This is a spoke which offers great possibilities for increased productivity—for getting more done in less time at less cost. It runs throughout your business, from the bookkeeping equipment in the office to the tools you use in the shop and on the job."

"The test that should be applied to the physical equipment is not 'can it do the job,' but rather 'will it do the job most efficiently and will it cut costs?'

"For example, is your shop sized, equipped, and located to provide high efficiency and low overhead? Do you have modern and efficient tools?

"Are your trucks the kind best suited for your type of operation? If you have a showroom, is it in a good location? Is it a favorable place to demonstrate and sell products, or is it just a space that never pays its own way?

"Every building and tool should be selected for its ability to help perform work quickly, efficiently, and well."

'Know-How'—Mighty Important Factor

"And that brings us to another mighty important spoke in our wheel of productivity—know-how."

You must know your business. For example, methods of installation must be found which will help you to install jobs in less time at lower costs. Local codes should be examined carefully and revised to permit you to get the full benefit from the many technical advances in methods and materials.

"The best way to eliminate the 'do-it-yourself' pressure against these codes and to re-

tain the protection of public health which they provide is to bring them up-to-date, so you can get the benefits of reduced costs.

"Unless these things are done, many people will continue to get along without a new . . . heating or cooling system—costing you the profit on the job and costing your employees the opportunity to make more money."

Employees Are Another Vital Spoke

"Your employees form the next spoke in the wheel of productivity—and certainly a vital one.

"Help them to understand the importance of their job in the over-all operation of your busi-

ness. See that they have the proper training to perform their jobs well. Encourage them to make suggestions. Help them help themselves—and you—by setting up a fair system to reward extra effort that results in increased profits.

"The result of all these things will be loyal and efficient employees—who will help bring about the increased productivity you want."

Market Awareness;—You Must Know Your Customers

"One of the most important factors in achieving increased productivity is market awareness. We must be alert to the desires and needs of the people who make up the market. Your customer today is not the same kind of buyer he was 10 years

Spindler's Spokes In Wheel of Productivity

1. Facilities.
2. Technical know-how.
3. Employes.
4. Market awareness.
5. Selling.
6. Credit.
7. Public relations.
8. Enthusiasm.

... YOU Are the HUB

ago. Right now you have a all of the job. If you can't do brand new kind of customer. the whole job, somebody else will. . . .

"This consumer is in the market place with more cash money than he has ever had before, and has more credit than he has ever known. He is smarter than he ever was before and he is more selective about what he will buy. And he knows how he wants to buy—easily and conveniently.

"He wants to give his business to the person who will do

"And your other customer—the builder—presents much the same kind of situation. Just as we have a new consumer, we have a new type of builder—the merchant builder.

"Ten years ago the merchant builder accounted for only a small percentage of new home

(Concluded on next page)

Electro-Klean performance

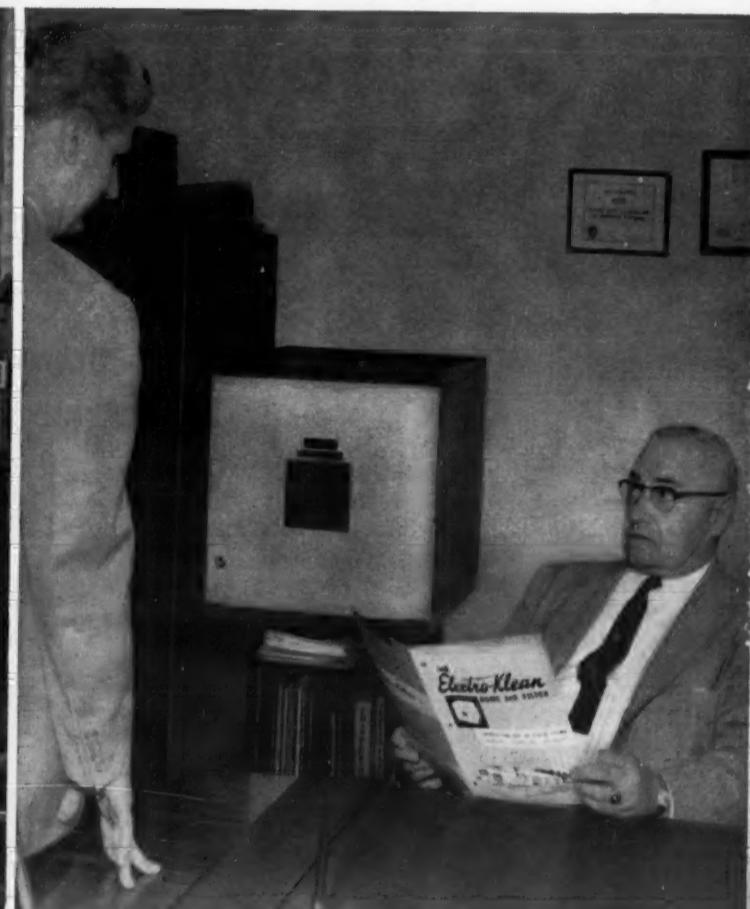


Distributor Bryant-Williams praises
Company Performance

"When AAF showed us its new product—*Electro-Klean* Electronic Home Air Filter—and a complete plan for opening the Pittsburgh market, we were interested. But we also wanted to be shown. Would the company follow through with every phase of its proposed campaign? Well, listen to this.

"From kickoff dealer meetings to large-scale color newspaper advertising and the full-time services of a top publicity expert, AAF's master promotion plan was followed through to the letter! No momentary splash, this, but a lot of sound thinking backed up by concentrated action. It sure was a real pleasure to work with a company that performed 100% on its promises."

Lee Williams
Bryant-Williams Company
936 Ridge Avenue
Pittsburgh 12, Pennsylvania



Dealer D. E. Hickey praises
Sales Performance

"We were impressed with *Electro-Klean*'s sales features from the moment it was introduced at AAF's first dealer meeting here. We liked the ads, too, and a program that made a lot of sense. Another big point that sold us—the many ease-of-installation features. No special wiring. No water or sewer connections. No moving parts to wear out. Advancements like that make our selling job easier.

"The fact that we could realize a full profit on every sale was the clincher. *Electro-Klean*'s price makes that possible.

"In fact, the sales story was so convincing I now have one in my own home!"

D. E. Hickey
D. E. Hickey Company
8157 Bennet Street
Pittsburgh 21, Pennsylvania
(Mr. Hickey is President of the Heating and Air Conditioning Contractors Assn. of Pittsburgh.)

Built and Backed by American Air Filter Company, Inc.

For more information about products advertised on this page use Information Center, page 14.

Solving Profit Problem--

(Concluded from preceding page) sumer 10 years ago. He has been exposed to a constant barrage of selling and has developed his own shopping and buying habits.

"He is finding out that the consumer wants more for his money, wants better equipment in the home. For example, look at the increase in two and three bathroom houses going up.

"So the merchant builder, in turn, needs your products and services, but he wants them at the lowest possible cost so he can sell his homes more easily to the new consumer."

Selling—It Must Be Keyed to Today

"And that brings us to another spoke, selling. "You don't sell this new consumer the same way you sold the typical con-

sumer 10 years ago. He has been exposed to a constant barrage of selling and has developed his own shopping and buying habits."

"Your sales efforts have to be keyed to this trend. Your advertising, your direct mail, your personal sales calls, your showroom—all of these have to be treated as part of a unified effort to increase sales."

Credit—Don't Get Into Banking Business

"Man's confidence in man—credit—is the next spoke in our wheel of productivity.

"When making credit arrangements for your customers, there is one cardinal rule for you to remember: Don't let yourself be forced into the banking business by carrying these accounts yourself. Banks and other lend-

ing institutions are staffed and equipped to take care of it. So make arrangements for your customers to get convenient credit from one of these institutions.

"That way everybody wins: The customer gets the products and services he wants and time to pay for them. The lending institution gets another customer, and you get your money right away."

Public Relations—Making People Want To Do Business with You

"You're in business to serve the public, so public relations is a mighty important spoke in our profit producing wheel of productivity.

"Public relations is something you have whether you want it or not. Anytime you do anything that affects some other person or group, opinions are going to be formed—and this applies to

"WINTER AIR CONDITIONING FUNDAMENTALS" by H. C. Gurney appears on page 20 of this issue. Size and Location of Unit Heaters is the subject of this month's column.

servicing, sales, advertising, letters, employee relations, to virtually everything you do.

"As a businessman, the community attitude can help or hurt you. If you are well-known and respected, you will find it easier to make sales, attract good employees, arrange credit and carry on other phases of your business. If the attitude toward you is unfavorable, you will find it more difficult to run a successful business.

"The formula for building good opinion is brief and simple. First, do the things that deserve a good opinion. Second, make sure people know and understand that you are doing them.

Doing these things will make people want to buy from you—and when they want to, they will find a way.

Enthusiasm—Faith In Your Industry

"Now, the eighth and final spoke in our wheel of productivity is enthusiasm—that faith in your industry, confidence in yourself, and vigor in your operations that provides the extra momentum needed for success and progress.

"Those are the eight spokes of our wheel of productivity—facilities, technical know-how, employees, market awareness, selling, credit, public relations, and enthusiasm. Each one of them is a necessary part of the wheel, but to do the job successfully they must work together.

The Hub—Management Must Provide Efficient Organization

"Holding these spokes together, giving them common direction and purpose, is the hub of the wheel—management. You are that hub.

"The first duty of good management is to provide efficient organization. No matter how big or how small your business is, you need to state clearly your specific objectives and then develop the processes for achieving those objectives.

"A second duty is to create a good atmosphere in your business. What I mean by good atmosphere is the spirit that builds the confidence of both your own people and the people who come in contact with your business.

"Still another duty of management is the selection of the right people for your organization. A competent employee indicates good management, since he generally results from either good selection, good training, or both.

"A final responsibility of management is to provide leadership—personal leadership within your organization and business leadership in your industry and community.

Teamwork Forms Rim of Productivity Wheel

"Now comes the down-to-earth part of our wheel—the rim—the part that gathers together the force generated by all of the spokes and transmits it into effective, profit-making action in the market place. This rim is teamwork—working with the other parts of our industry to win a larger and more prosperous place in the business world.

"As an industry we are competing today against a host of other industries with a record number of attractive products and services. To compete successfully against these industries we must develop ideas, products, and services that will win sales. That is the job of everyone in the industry—manufacturers, wholesalers, retailers, and contractors."

SEND FOR REPRINTS

Product Knowledge, Protective Maintenance, Trouble-Shooting, Adjustment, Repair of Electric Motors.

Only 40¢ each.

For your copy, clip this ad and mail with name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

.tops expectations in Pittsburgh

Let *Electro-Klean* Electronic Home Air Filter open a new field of profit for you. Take advantage of this new way to lift a sale out of competition. Priced at just *one-half* that of comparable units, *Electro-Klean* makes every home a prospect for electronic air filtration. No longer do you have to cut price. Instead, you take a *full* profit on every unit!

Discover what AAF performance *really* means . . . right from promotional support to a dependable product that eliminates after-service problems and complaints. Remember, every *Electro-Klean* unit is *fully* guaranteed.

See your distributor today. If he doesn't know the new *Electro-Klean* story, write: *Electro-Klean* Dept., American Air Filter Company, Inc., 109 Central Ave., Louisville 8, Ky.

Tired of swapping dollars?
Ask your distributor about the new low-priced *Electro-Klean* . . . There's nothing like it on the market!



Mrs. Robert L. Patterson praises Product Performance

"Whoever heard of a home 'that house-cleans itself'? Both my husband and I were willing to be shown. You see, white is the dominant color theme in our home . . . but oh, what a problem to keep clean!

"Now, however, we can already notice the difference with our new *Electro-Klean* Home Air Filter. Our walls and woodwork stay clean. Draperies, too, retain their fresh, new look. Of course, there hasn't been time to see if *Electro-Klean* does *everything* claimed for it, but its marvelous performance so far has more than satisfied us."

Mrs. Robert L. Patterson
612 Berkshire Drive
Fox Chapel
Pittsburgh,
Pennsylvania

. World's Largest Manufacturer of Electronic Air Filters

For more information about products advertised on this page use Information Center, page 14.

They'll
Do It
Every
Time
by
Jimmy
Hatto



No Easy Seat for Manufacturers

PROGRESS can be embarrassing. Example: no manufacturer of refrigeration components can be certain that this products will be needed forever. Never can tell when an invention or utilization of different materials will obsolete them.

New methods of food preservation may disrupt refrigeration's monopoly eventually. In that connection, greatest attention is being focused on three glamorous newcomers to the food preserving field: gamma and electron irradiation, antibiotic and chemical preservation, and dehydration by "freeze drying."

Researchers also are developing new techniques for such proven methods of preserving food as canning and freezing. Future methods of providing "good eats" in limited commercial use include: Antibiotics to conserve poultry and fish, freeze-drying to preserve shellfish and shrimp, plus dehydrofreezing and dehydrocanning of fruits and vegetables to save money for institutional users (hotels, restaurants, hospitals).

Our United States Army is irradiating about 225 tons of food a year, experimentally. Some irradiated meat may be in your supermarkets within five years.

However, large-scale commercial applica-

tion of irradiation in the meat industry won't be in the cards for a long time, due to relative costs involved. Reason:

Steaks require high "sterilizing" doses of radiation, which result in serious changes in flavor, odor, and color. Outlook for irradiation in other food fields isn't promising, either, thank goodness.

Moreover, it is unlikely that atomics will be applied to bakery goods, because high extra costs would not be justified commercially, or on dairy products (unpleasant flavors result).

Comparative production costs also restrain wide-spread commercial development of "freeze drying," in which foodstuffs are frozen and then subjected to a total vacuum. Thence ice crystals "sublime" or literally "boil" directly from a solid state into water vapor—much as dry ice does when exposed to warm air.

A light-weight product which resembles the original in appearance, but requires no refrigeration, accrues.

Dehydrofreezing has excellent possibilities from a scientific standpoint, although it's a long way away from home. Even so, our industry should watch these new developments closely.

Actually, high personal income tax rates on the relatively few top payers produce meager revenue in the aggregate for our government.

The number of individuals concerned is so small—and their total take so fractional—that little would be added to revenues if the government were to take ALL their incomes.

If all rates above 50% were eliminated, the net immediate loss to the government would be only \$734 million, or slightly over 1% of the Federal budget (fiscal 1956). If all rates above 60% were eliminated, the net immediate loss to the government would be only \$375 million, or slightly less than one half of 1%.

Let's give little business and new business a break!

Devilishness of High Taxes

HIGH TAXES do most injury to persons who do not pay them.

Why? Because, high taxes discourage business development and reduce job opportunities. Further, when taxes prevent business enterprises from growing, the government loses potential revenue. This, in turn, means still higher taxes for everyone.

Henry Ford, in his early days of real risk, obtained his capital from friends and individual investors. Nowadays such individuals hesitate to entrust their hard-kept savings on risky investments—when returns EVEN IF THEY WIN—will be heavily taxed.

Greatest help that possibly could be given to small business and new business in this country would be to reinvigorate the field of risk capital for private investment.

How? Through suitable revision of tax rates.

Popular is the belief that the rich can

and do carry the heaviest share of the national tax burden.

Actually, high personal income tax rates on the relatively few top payers produce meager revenue in the aggregate for our government.

The number of individuals concerned is so small—and their total take so fractional—that little would be added to revenues if the government were to take ALL their incomes.

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Let's give little business and new business a break!

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Est. 1926

AIR CONDITIONING & REFRIGERATION NEWS

F. M. COCKRELL, Founder

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Publishing Co.

The Conscience of the Industry

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VOLUME 82, NO. 1, SERIAL NO. 1,484, SEPTEMBER 2, 1957



OFF THE CHEST

HANDCART HELPS HAUL 'HOT' AIR CONDITIONER

Carrier Corp.
Syracuse, N. Y.

Editor:

As an avid reader of "Inside Dope" I thought you would be interested in this clip from the Syracuse newspaper.

I know you have covered a lot of these "cool" thefts but I'll bet this is the first time one of these "hot" air conditioners has been hauled off with the convenience of an aluminum handcart.

It goes without saying—air conditioners were in heavy demand in this area during the recent heat wave.

FRANK BURGMEIER

Editor's Note: Following is the clipping sent by Mr. Burgmeier:

"Taking advantage of an unguarded moment during a respite from hot weather, a thief made off with an air conditioning unit at 512 Raynor Ave., according to police yesterday.

"Paul Bravos, 37, of 135 Stadium Pl., reported to police that the 200-lb. unit was missing from the front porch of the Raynor Ave. address overnight.

yesterday along with an aluminum handcart which was in the side yard, police said.

"Police reported Bravos believed the thieves used the handcart to move the unit from the site."

LIKES SIDLES LETTER

Pfrommer Brothers, Inc.
Lafayette, Ind.

Editor:

Thank you for printing the letter from Sidles Co. in Omaha, Neb. on "Experience-Tested Logic."

I think it would be a good idea if a copy of this was sent to every major manufacturer and distributor in the country.

D. I. PFROMMER

KEEP AFTER SOUND PHASE

Andre Merle Associates
Washington, D. C.

Editor:

Regarding your fine editorial about SOUND in air conditioning engineering. Keep after that phase. Bear in mind also that the type of people who make use of air conditioning, as a general rule, are hard working and affected by noise.

ANDY

Handy Way to Subscribe

To See the Industry In Action EVERY WEEK

Keep up-to-date on what's going on in your industry. You'll see action weekly in AIR CONDITIONING & REFRIGERATION NEWS. Covers latest news and gives you top how-to-do-it reports on commercial and residential air conditioning, heating, commercial and home refrigeration: manufacturing, contracting, distributing, retailing, and servicing. Read the Industry's newspaper for profit every week. Only \$6.00 per year, 52 issues (U.S. and Canada). Foreign: \$10.00 per year.

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450 W. Fort St., Detroit 26, Mich.

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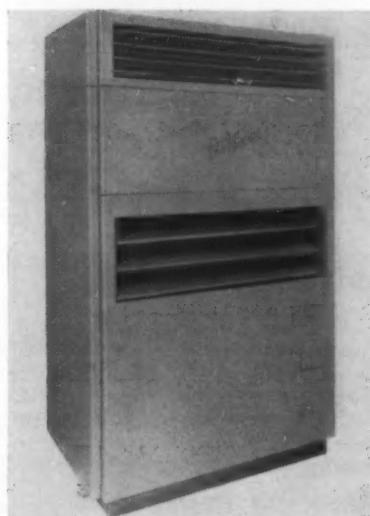
Name.....

Company.....

Street.....

City..... Zone..... State.....

IMPORTANT: Company's Type of Business.....



SELF-CONTAINED water-cooled summer air conditioner, available in models from 5 through 15 tons, has been added to the Thatcher Furnace Co. line.

Summer Air Conditioner Features Fiber Glass Sheet Insulation Panels

GARWOOD, N. J.—A self-contained water-cooled summer air conditioner "which can be serviced in the field by any refrigeration serviceman" has been added to the line of summer and winter air conditioners manufactured by Thatcher Furnace Co., it was announced here.

MODELS 5-15 TONS

"Available in models from 5 through 15 tons, the new air conditioner's compact design includes both cooling and blower equipment in a single cabinet," the announcement said. "It features extra heavy sheet fiber glass insulation panels and a combination of horizontal and vertical louvers which provide for full control of air distribution and throw."

Thatcher also announced a summer air conditioner which can be added to existing warm air systems in residential or commercial installations where water is scarce or expensive. It is made in 2, 3, and 5-ton capacities, and its air-cooled condensing unit can be placed in yard, cellar, or garage.

Evaporators with new quick connect valves are made for either horizontal or vertical air flow and are designed for simple connection to ductwork, it was stated.

WATER-COOLED UNIT COMPLETES LINE

The line of air conditioners is completed with a water-cooled model which can be installed either with ductwork or as a free standing package unit for commercial applications. Made in models of 2, 3, or 5-ton capacities, this conditioner features special knock-out plugs "which eliminate drilling for water, drain, and power supply connections." It has replaceable filter, coaxial type condenser, and centrifugal blower with large diameter wheel.

PURCHASE OR MERGE UNIQUE SITUATION

Well rated, low-cost manufacturer of shell and tube type heat exchangers, assembled refrigeration and air conditioning systems, wishes to purchase or merge with organization whose similar or allied products are now being sold by a well-developed sales distribution setup selling to mechanical and air conditioning contractors. We are principals and wish to deal with principals. Replies kept in strictest confidence. Box Realservice, 110 W. 34th St., New York City.

4 Large Eastern Seaboard Apartment House Projects To Have Air Conditioning; 2 Concentrate on Built-In Wall Units

NEW YORK CITY—Air conditioning is being installed or planned for in four large apartment house projects along the eastern seaboard.

The luxurious Harrison Park in East Orange, N. J. claims to be one of the first apartment buildings in the country to use a central air conditioning system as large as 400 tons.

A Carrier absorption machine of that capacity will air condition every portion of the building year-round. It is steam operated.

900 THERMOSTATS OFFER ROOM CONTROL

More than 900 thermostats in the 279 luxury apartments offer individual room control.

In Philadelphia, the 2601

Parkway building has started a program of installing Airtemp "All-In-Wall" room air conditioners in each of its 520 apartments.

Mayer I. Blum, owner, spent \$60,000 to increase the building's transformer capacity to handle the new air conditioning system. The job was engineered by Howard Schaffer, vice president of the air conditioning division of S. S. Fretz, Jr., Inc., Airtemp distributor.

In the Bronx here, a deluxe 66-family cooperative six-story apartment building to be erected at Sherman Ave. and E. 164th St., will have built-in air conditioning units in all master bedrooms.

Secondary bedrooms in the

five and six-room apartments will also be air conditioned. Outlets for optional air conditioning will be provided in the secondary bedroom of the 4½-room apartments and in the third bedroom of the six-room units.

Construction on the Sherman Terrace will begin this year.

1,166 COOLED APARTMENTS

In Newark, N. J., the Redevelopment Corp. of New Jersey is planning to construct four 14-story apartment buildings containing 1,166 air conditioned apartments.

Designed to meet the needs of downtown workers, they will be built in the North Ward's Broad St. and Branch Brook Park urban renewal sites.

New England Home Show Set for Feb. 13

BOSTON—The 1958 New England Home Show, sponsored by the Home Builders Association and Boston Real Estate Board, will be staged in Mechanics building here, Feb. 13-19.

Initial two days of the show will be devoted exclusively to the building trade for architects, contractors, and material suppliers. The show will be open from 1 to 10 p.m. on Feb. 13 for the trade, and from 10 a.m. to 5 p.m. on Feb. 14.

The show will be open to the public beginning at 5 p.m. on Feb. 14 and continues through Feb. 19 from 1 to 10:30 p.m. The 1958 show is directed by Sherman Expositions, 250 Boylston St., Boston, it was pointed out.

WOLVERINE SERVES THE REFRIGERATION INDUSTRY...

... WITH WOLVERINE CAPILATOR®

Got a tough capillary tube problem? One that demands the utmost precision in the metering of liquids and gases? If you have, Wolverine Tube has exactly the product to help you do a better job.

It's tiny Wolverine Capilator—the plug-drawn capillary tube. Capilator was developed by Wolverine Tube expressly for the refrigeration and air conditioning industry. Because it is plug drawn, Capilator's inside diameters are mirror-smooth—are held to such close tolerances that the tube can be produced to customers' specified demands.

Capilator is produced to rigid specifications. Both ends are chamfered to assure non-restricted fluid flow and to contribute to better end connections. Before shipment, each length is washed, individually flow-tested and has its ends paper wrapped to insure absolute cleanliness.

Next time you require capillary tube, specify Wolverine Capilator. Remember, too, that Wolverine also produces finned (Wolverine Trufin®) and prime surface condenser tube as well as copper and aluminum commercial tube in straight lengths and coils. For complete information write for our new book "Wolverine Serves The Refrigeration Industry".

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Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes

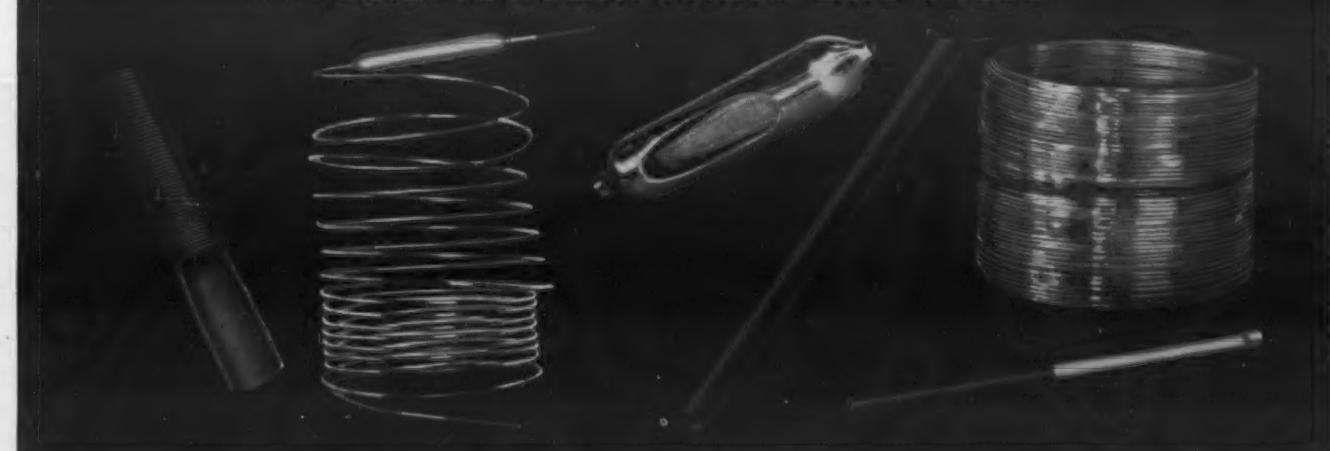


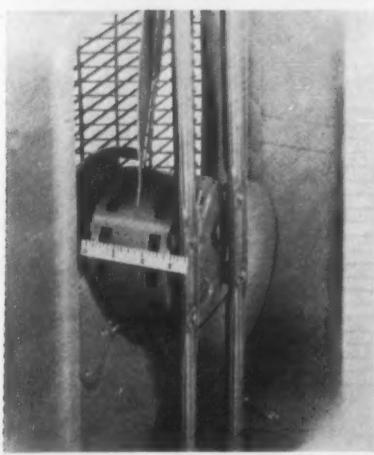
Wolverine Trufin is available in Canada through the Unifin Tube Company, London, Ontario.

PLANTS IN DETROIT, MICHIGAN, DECATUR, ALABAMA. SALES OFFICES IN PRINCIPAL CITIES.

EXPORT DEPARTMENT, 13 EAST 40TH ST., NEW YORK 16, NEW YORK

... AND TUBULAR PARTS LIKE THESE





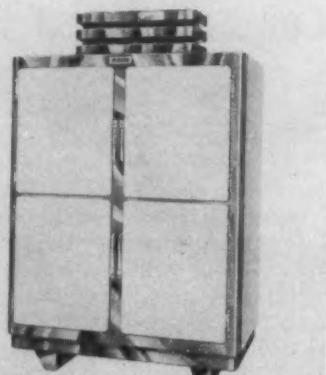
Koch Reach-Ins Feature 26-In. Deep Cabinet

KEY NO. G-911

KANSAS CITY, Kan.—Koch Refrigerators, Inc. recently announced the new Koch series "M A" line of reach-in refrigerators.

Units in this new line will incorporate the features of series "M" refrigerators in a new condensed cabinet, with body depth 26 in. deep to permit convenient installation in back-bar and other limited access areas. There are both four-door and six-door models. Net capacities are 32 and 50 cu. ft.

Refrigerators in the M A line are of all-steel, all-welded construction, and are available with solid or glass doors. The fronts, even on porcelain front models, have heavy stainless steel frames. Remote or self-contained units are available.



The interiors, of stainless steel or porcelain, are practically seamless and coved for easy corner cleaning, with one-piece bottoms that are flashed up on all sides.

Shaded-Pole Motor Has 'Slim' Lines

KEY NO. G-910

SCHENECTADY, N. Y.—A new "slim" shaded-pole motor, 33% lighter in weight than previous designs, has been developed for such applications as blowers, cooling fans, evaporative coolers, and air conditioners by the General Electric Co.'s Specialty Motor Dept.

Length of the two-bearing unit is less than 4 in. It weighs 5.5 lbs. The slim motor provides ventilation openings in both the shell and end shields without additional cost to customers.

End ventilated shell-type construction makes possible the new compactly designed motor. Special ribbing configuration of end shields provides strength and rigidity.

Filtrine
"Taste Master" PURIFIERS for
WATER - COOLERS ICE MAKERS
... rust, dirt chlorine taste
... service breakdowns due to rust & sludge
Stop

Insures service satisfaction for all coolers, ice-makers! Clear, taste-free water... crystal ice... every day... in all locations.

FILTRINE MFG COMPANY
216 W. PROSPECT ST. • WALDWICK, N. J.

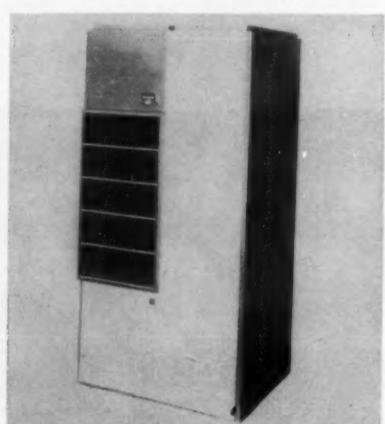
Year-Round Unit Takes 28 x 35 In. Floor Space

KEY NO. G-912

INDIANAPOLIS—A completely self-contained year-round air conditioning unit which features an internally mounted air-cooled condenser, has been introduced by Bryant Mfg. Co.

Called the Bryant "557," it occupies less space than many units which provide heating alone, and requires no remotely located condenser because it is built in at the factory, the firm said.

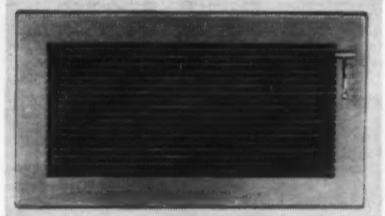
Condenser air is ducted to the unit from outside. Its heating side is gas fired and has a capacity of 100,000 B.t.u.h., while cooling ca-



pacity is 23,200 B.t.u.h.

Designed expressly for the moderate sized home, the unit has AGA approval for close clearance installation in closets, alcoves, or utility rooms. It can be installed in floor space measuring 28 by 35 in.

Standard equipment includes direct-drive blowers, a heating-cooling thermostat, a welded steel heating element, and a high capacity condensing coil.



'Wrinkle-Out' Dryers Remove Wrinkles

KEY NO. G-913

CHICAGO—Norge has introduced electric and gas clothes dryers which automatically remove wrinkles from clothes made of orlon, dacron, nylon, and other fabrics, Norge Div., Borg-Warner Corp. announced. The special feature is known as "Wrinkle-Out."

Adds Balancing Lever Damper Control

KEY NO. G-914

LIMA, Ohio—Addition of a new balancing lever damper control to its line has been announced by the Lima Register Co.

The new control will be available for standard sizes of wall registers and sidewall diffusers. Lima will retain the "Balancing Bell" damper control. Like the Balancing Bell, the new "Balancing Lever" allows quick balancing of the heating system at the register, the firm said.



Develops Moisture Magnet Drier

KEY NO. G-915

LYONS, N. Y.—A new moisture magnet drier of small size has been marketed by Kenmore Machine Products Co.

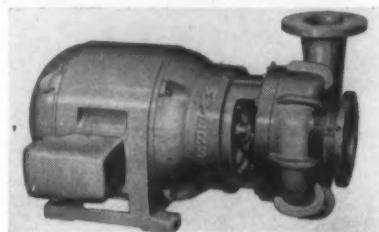
Molecular sieves, the newest class of adsorbents, are the desiccants. This new drier eliminates acid corrosion, has no capacity loss due to oil adsorption, a minimum of pressure drop, and a greater reserve capacity.

Centrifugal Pumps Designed for Heavy-Duty

KEY NO. G-916

ASHLAND, Ohio—A new line of centrifugal pumps designed for heavy-duty industrial applications has been put into production by the F. E. Myers & Bro. Co.

Known as the "Hi-Capacity Hi-Head" series, the pumps are suitable for conditions requiring extremely high gallonage and pressure. Although designed to meet a variety of industrial requirements they can be used satisfactorily as electric motor-driven irrigation pumps, or for similar applications. Capacities range from 200 to



1,500 g.p.m. at heads up to 340 ft. The new Myers line ranges from 15 to 60 hp. These flanged pumps are available with the conventional stuffing box or with mechanical seals.

Introduces Charging, Metering Instrument



KEY NO. G-917

CHICAGO—A new refrigerant charging and metering instrument that provides an efficient method for servicing capillary controlled hermetically sealed refrigeration systems has been introduced by the Imperial Brass Mfg. Co.

The unit makes possible accurate measuring of small quantities of dry refrigerant and exact charging of refrigerant is assured. Used in combination with a service manifold and vacuum pump, refrigeration systems can be discharged, purged, evacuated, and recharged from standard cans of refrigerant. The new instrument is calibrated for both Refrigerants 12 and 22 in either the 15.2-oz. cans or 32-oz. cans.

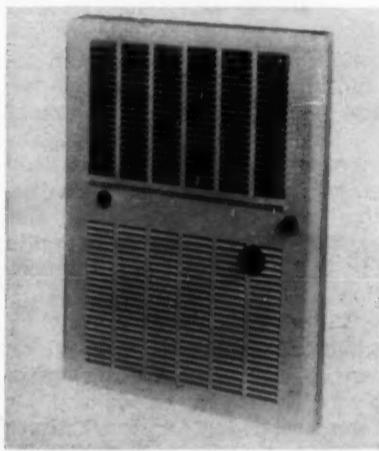
Packaged and protected by a steel kit that measures 9 1/2 by 15 1/2 by 5 1/2 in. the unit is designed for operation without removal from the case, thus assuring complete protection and care in use.

Unit Highlights 'Percojet' Heat Pump

KEY NO. G-918

NEWARK, N. J.—A new system for year-round conditioning of the air in occupied premises, and that employs no furnace, chimney, or ducts, has just been announced by Electric Heating & Cooling, Inc.

Feature of this system, according to the manufacturer, is the use of the patented electric "Percojet" heat pump with each unit in the system, that circulates the heating medium during the heating season. Percojet heat pump has no moving parts, is noiseless, and efficient. Individual room comfort is provided, winter or summer, without affecting conditions in adjoining rooms or areas, the manufacturer said.



Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

Products Advertised

(list name, page, and issue date)

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.....
.....

What's New or Current Literature Available

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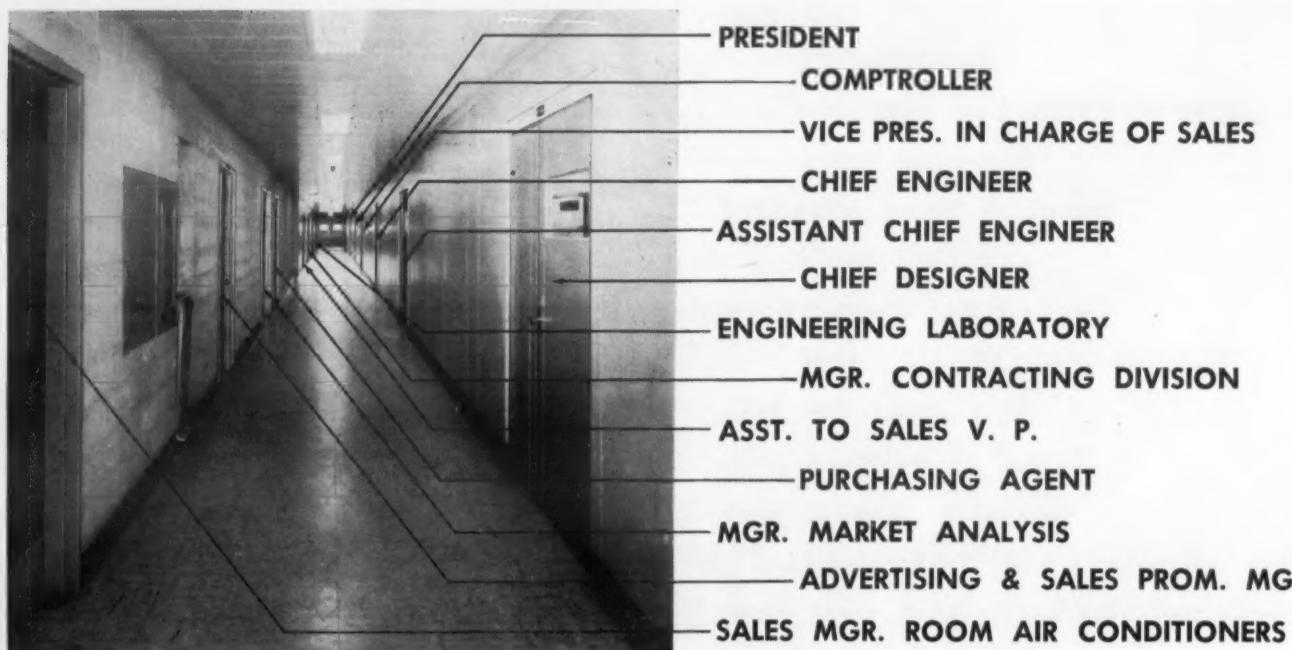


This large manufacturer* of air conditioning units offers you

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*Total circulation to this one manufacturer exceeds 65 subscriptions—typical of the "across-the-board" penetration of the NEWS.



All thirteen doors to sales are opened every week to the News



When your salesman goes into a certain large manufacturer of air conditioning and refrigeration units, he usually sees only three of the thirteen men responsible for purchasing. He may never get across his pitch to the Vice President of Sales. Or the Design Engineer. Or the Manager of the Contracting Division at this corporation. Yet a nod or a "no" from any of these men could make or kill a sale!

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HIGH-SPEED automatic cold injector that chills food quickly and offsets cold loss from door openings heads the list of features on 1958 Westinghouse Electric Corp. refrigerators. Model DCL-16 pictured here is a combination refrigerator-freezer which has a "child safe" magnetic door on the 10.4-cu. ft. refrigerator section and a safe burst open latch on the 5.7-cu. ft. freezer compartment below. Eleven textured and wood grain vinyl door panels are available for changing kitchen decor periodically.



Westinghouse Unveils '58 Line--

(Concluded from Page 1) with securing the proper Westinghouse share of appliance business volume in his market and he has full command of all marketing tools including suggested pricing," declared John J. Anderson, manager of the Westinghouse Major Appliance Div.

'Cold Injector' In Top Refrigerators

Major innovations in the line are in the top refrigerator models, which feature a "cold injector" which forces refrigerated air continuously through the refrigerator department for fast chilling, and door magnets with lifetime guarantees.

All nine models have been "squared off" in design to "fit in to look built in" with the "Shape of Tomorrow" appearance that characterizes the entire 1958 Westinghouse major appliance line.

Purpose of the cold injector is to speed up the chilling of food and beverages stored in the regular food compartment, to provide even temperatures throughout the interior, and to recover cold-loss from door openings in faster time. A fan at the bottom rear of the cabinet operates continuously forcing air across a cold plate and distributing it throughout the food compartment.

Lifetime Guarantee for 'Child-Safe' Doors

The magnets used in the "child-safe" magnetic doors carry the first lifetime guarantee on such a device, Westinghouse officials declare. The magnet is a ceramic substance—sintered barium ferrite—rather than metal, and it is said to retain its magnetism for life.

The four top models in the refrigerator line have automatic defrosting in addition to the "cold injector" and magnet door features. They also lend themselves to a variety of color combinations through the use of five basic cabinet colors—sugar white, mint aqua, lemon yellow, frosting pink, and nougat gray—and 11 choose-and-change color panels that can be installed in a few minutes on the refrigerator doors.

Other features in these models, which all have separate freezer compartments, include an 8-lb. ice cube server with snap-out ejector; tilt-down egg

server, twin crispers, meat keeper, full-width adjustable slide-out shelves, and butter and cheese-server.

Model DCL-16 has a 10.4-cu. ft. refrigerator compartment with 5.4-cu. ft. freezer compartment. Model DCL-14 has 9.1 and 4.6-cu. ft. compartments. Model TDL-12 has 12.1-cu. ft. refrigerator compartment, and separate home freezer holding 101 lbs. Model DL-12 has 11.8-cu. ft. refrigerator compartment, and 75-lb. freezer compartment.

Model HDL-12 has 11.8-cu. ft. storage compartment with separate 75-lb. freezer compartment, automatic defrosting, most of the top-model features, and the Choose-and-Change color panels. Model HL-12 has 11.6-cu. ft. capacity and 75-lb. freezer section, but does not have automatic defrosting or lend itself to color panels.

In the low end of the line are models HL-11, similar in capacity and size to HL-12, but without as many features; model DL-9, a 9.1-cu. ft. refrigerator with 38-lb. freezer, and interchangeable door panel in 11 colors; and model HL-9, a 9.1-cu. ft. model with 50 lbs. frozen storage capacity including 15-lb. frozen storage tray.

In the operation of the "cold injector" system, a blower-type fan of 20 c.f.m. capacity changes the air in a 10-cu. ft. cabinet twice-a-minute. Westinghouse engineers say that where air circulation is dependent on convection currents, the change is in the order of once in 5-to-10 minutes.

How 'Cold Injector' Cycle Works

The cycle works in the following manner: when the compressor and air circulating fan are both running, the air stream carries the heat extracted from the food out of the food storage compartment over the cold plate that is located between the rear inner and outer walls.

As soon as the temperature of the cold plate reaches 0° F., the compressor shuts off but the fan is left running. The warm air stream coming from the food storage compartment soon raises the temperature of the cold plate to 36° F. At this point, the compressor starts up again, and the cooling cycle repeats.

During the compressor off-

cycle the refrigerator compartment is defrosted automatically. When the temperature of the cold plate reaches 32° F., the ice on it melts and runs off as water. This defrost water is collected in a pan at the bottom of the refrigerator, and is evaporated by the heat from a section of the wire-and-tube condenser which extends under the pan.

Hold Off Freezer Line Until '58

The Westinghouse food freezer line will not be introduced until early next year, but a "preview" was given which indicated that the freezer line design-wise will have the same "squared off" look as the refrigerator line. The room air conditioner line will also be introduced at a later date.

The new electric range line features "Miracle Seal" ovens, plug-out surface and oven heating units, infinite heat control, and divided surface work areas was recessed tops on every model.

Laundry Line Features Versatility, Simplicity

A combination of pushbuttons and dials gives the Laundromat automatic clothes washers and electric dryers the greatest versatility and simplicity in the company's history, say Westinghouse officials. A two-cycle "fabric-master" dial governs washing time, with shorter times for more delicate fabrics. Seven pushbuttons control water temperature for washing and rinsing. Dryers have "pushbutton" dry.

A new portable dishwasher holding a dinner service for eight people is considerably more compact than the unit it supersedes. Built-in dishwashers now are available in 15 different front panel choices.

The four sets of twins in the laundry equipment line include three pairs of slant-front models and the "Spade-Mates," which can be installed with the dryer atop the washer to provide complete laundry facilities in 25 in. of floor space.

Laundromat pushbuttons control wash water temperature, and rinse temperature. Any wash temperature may be combined with any rinse temperature.

Pushbutton Drying

In pushbutton drying, when the dry button is pressed, the dryer starts. It shuts off automatically when the clothes are dry, regardless of the kind of clothes or size of load. Dryers have an improved direct air flow drying system.

The six-model range line is split into three sets of pairs. Each set, or series, has one 40-in. model and one 30-in. model. Every model has a 23-in. master oven, and one model has a second oven—a 12-in. thrift oven, according to the firm.

Four models have automatic oven timers, fast Super Corox surface units which get red hot in 20 seconds, and color-glance controls for added ease in setting cooking speeds. Also available on some models is a Shur-Temp automatic surface unit which assures that foods will not be overcooked when overlooked.

Westinghouse Promises No Major Appliance 'Dumping' In '58

COLUMBUS, Ohio — A promise of no major appliance "dumping" in 1958, and a pledge that Westinghouse would not be guilty of "indiscriminate franchising, multiple price sheet tactics, uncoordinated promotions, over-production, and ignoring service" was made by John W. Craig, Westinghouse vice president and general manager of the Electric Appliance Divs., to distributors and dealers convening here to see the 1958 major appliance line.

Both Craig and John J. Anderson, manager of the division, said that all dealer franchises were under review and that "it was possible" that there might be a considerable trimming of the

total number of dealers handling the Westinghouse lines.

Craig said that the recent establishment by Westinghouse of a service division gives service "the stature, dignity, and voice of a product division." He said good service is the cornerstone of success in brand-building and promised dealers constant help in all areas of service.

Questioned as to whether this might mean the establishment of more central "metropolitan service stations" handling all the service for large populated areas, Craig said any additional metropolitan service stations would probably be established only where distributors and dealers weren't supplying adequate service.

MIGHTY MITE MOTOR PROTECTORS

fit almost any stator lamination



Regardless of the design of your motor stator, there is a Mighty Mite that will provide continuous and automatic protection against overload.

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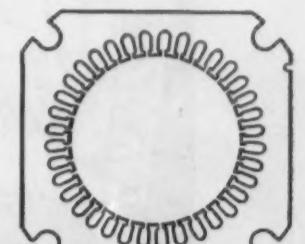
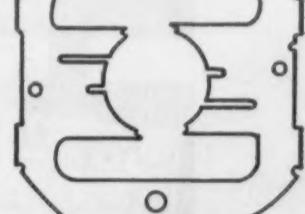
Mighty Mite motor protectors are available as small as $\frac{3}{4}$ " long x $\frac{5}{16}$ " wide for motors rated up to $\frac{1}{3}$ h.p. 115/230 volts. Regardless of stator design, you can protect your motor with a dependable, fully automatic Mighty Mite motor protector.

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Solar Permanent Co.

**6 Apartments Install
Refrigerated Vendors****Milk Tank Maker Leases
Melrose Park, Ill. Bldg.**

TOMAHAWK, Wis. — Solar Permanent Co., a division of U. S. Industries, Inc. with plant facilities here, has leased quarters at 3500 W. North Ave., Melrose Park, Ill., the company announced.

The newly-constructed building will house the company's sales and administrative offices and provide some 9,000 sq. ft. of additional warehouse space, it was added.

The firm manufactures two principle product lines from stainless steel—a refrigeration tank for storage of daily milk production on dairy farms, distributed under the name "Solar MilkMinder," plus a variety of kitchen cookware, it was explained.

6 Apartments Install**Sees 100% Jump Next Year****Firm Doubles Bulk Milk Tank Production Since '56, Figures
200,000 Farms Will Use Refrigerated Milk Tanks by 1960**

CHICAGO — Six apartment buildings here now have Vari-Vend food vending machines installed in them.

One installation is said to be doing over \$200 weekly volume in milk, eggs, butter, cheese, soft drinks, jello, potato salad, and such other items requiring refrigeration.

The apartment house units are either leased by building owners or placed by jobbers, who also service the machines.

Vari-Vend is reportedly suspending filling of orders for supermarket vending machines, while it redesigns its equipment to simplify installation. The report said installation costs were running too high because of too much skilled help being required.

SYRACUSE, N. Y.—A 100% Haverly semi-direct expansion rise in the sale of Haverly bulk milk coolers.

By 1960 more than 200,000 U. S. farms will be using refrigerated bulk tanks versus 75,000 at the present time, Schelling stated.

Jerry Simon of Revere Copper & Brass, Inc. explained that Haverly exclusively uses copper heat exchangers in refrigerating milk. He stated that Haverly tanks are lined with stainless steel which is in turn surrounded by copper. The copper is connected to the refrigeration unit and consequently enables the Haverly tank to give outstanding cooling service, Simon pointed out.

The division's new plant at 208 S. Geddes St. is now in full operation and other expansion plans are being developed to meet the growing demand for John Seremet, marketing

director of the Connecticut Milk Producers Association, stated that approximately 90% of the milk produced by the association is now cooled in refrigerated bulk milk tanks on the farm and that a big percentage of these tanks are Haverly semi-direct expansion coolers.

Requirements of the CMRA refrigeration recommendations for bulk milk tank users in their area include:

1. That the milk in the farm tank be down to 40° or under one hour after completion of milking.

2. The addition of warm milk to cold milk in the tank at no time should raise the milk temperature in the tank to over 50° F.

3. The application of refrigeration shall not be to such an extent as to cause the freezing of the milk.

4. Farm cooling tanks should be of such structural design as to meet recognized national standards and should be approved by both the Commissioner of Agriculture and the Food and Drug Authorities of Connecticut.

5. The size of bulk milk tank compressors must be sufficiently large to cool the capacity of the tanks daily regardless of whether the milk is picked up every day or every other day.

80 New Stores Due**Kroger Plans 'World's
Largest' Distribution
Center In Michigan**

DETROIT—The Kroger Co., large food chain, has opened or plans to open this year or next 80 new supermarkets in Michigan, C. Olak Talla, vice president of Kroger's Detroit Div., announced recently.

Kroger will also open this fall, partially at least, what it describes as the world's largest food distribution center in Livonia, Mich., near Detroit.

These announcements were made by Talla on the occasion of the opening of a Kroger outlet in Detroit's new Eastland Shopping Center. This air conditioned store covers 16,800 sq. ft. and includes 44 ft. of dairy and 68 ft. of frozen food display.

All packaging of dairy, produce, and meat products is carried on in the basement.

The new Livonia distribution center, occupying a 76-acre site, will encompass 15 acres under one roof with eight acres of railroad siding and service track capable of holding 200 rail cars adjacent to it.

Under-roof facilities will be able to unload 50 railcars at one time and 100 trucks at one time.

The entire area devoted to the handling of fresh fruits and vegetables will be air conditioned with a system that includes "curtain of air" doors at the unloading docks.

Freezer lockers will have space to store 50 carloads of frozen foods. The air conditioned meat handling area will hold 60 carloads, while the dry grocery area will accommodate 1,000 carloads.

Keep your frozen food "in the clear" with

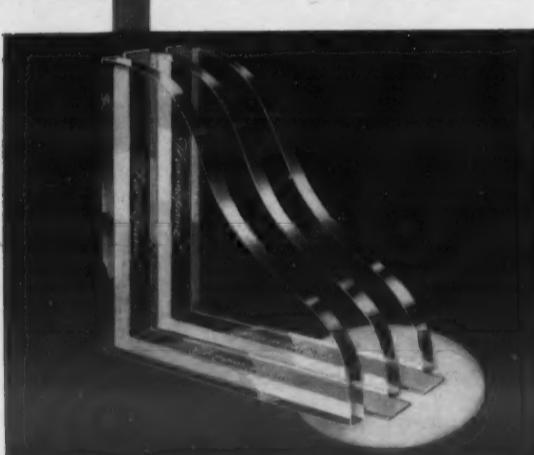
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Customers see their favorite brands faster

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More than 7,000,000 units warranted to date.

Accept no substitutes.

For your own protection, insist on Thermopane.



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INSULATING GLASS

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Refrigeration Problems And Their Solution (As Written by Paul Reed)

The late Paul Reed, one of the refrigeration industry's most respected writers and teachers, wrote a column on "Refrigeration Problems and Their Solution" which was published regularly in AIR CONDITIONING & REFRIGERATION NEWS for more than 15 years.

Readers throughout the years have hailed this written material as some of the most practical and helpful that has ever been published. Fortunately, the author had an opportunity to revise some of this material and the NEWS is currently re-publishing it.

Checking Refrigerant Charge (1)

If the complaint from the customer is that the cooling is insufficient, but that the machine runs all the time, one of the first things that a service engineer thinks of is that the system is low on charge, that is, short of refrigerant.

And with those symptoms, his first guess, before he even sees the refrigerator would be more apt to be right than wrong. For that very reason, he should check rather carefully to be sure that a shortage of refrigerant is really the cause of the trouble and not something else that causes similar symptoms.

He should watch that he doesn't become "short-of-refrigerant" conscious and too ready to start putting in more refrigerant—"give it a shot."

Service managers know that many men get "complexes"; one has an expansion valve complex, and changes three times as many expansion valves as any other man in the crew. Another has a short-of-gas complex, and uses three times as much refrigerant on his service calls as any of the other men. Another picks on discharge valves, etc. So it is a good idea to check up on ourselves once in a while and review our methods of diagnosis and test.

BUBBLES IN SIGHT GLASS

For example, what symptoms indicate that there is insufficient refrigerant in the systems, that is, that it is low on charge?

One of the most trustworthy is to put a sight glass in the liquid line, and if it shows bubbles going through, a low-on-charge condition is indicated. This may mean that there is not enough liquid refrigerant in the receiver (or in the bottom of the condenser if the unit does not use a receiver) to make a liquid seal at the entrance to the liquid line.

As a result, some of the gas blows by with the liquid, and this gas shows as bubbles in the sight glass.

Since the gas is just about direct from the condenser, it is hot; so the liquid line becomes hot from this hot gas. A hot liquid line may be an indication of low-on-charge.

But bubbles in the sight glass are not a positive indication of low-on-charge. They can be the result of other conditions, so if we accept them as a sure indication of low-on-charge, and add refrigerant, we may find that all we succeed in doing is running up an excessive head pressure because of overcharge, and yet the bubbles in the sight glass persist.

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BUBBLES ARE AIR?

What else then can cause bubbles in the sight glass? One answer is air in the system. Air is non-condensable (at pressures and temperatures used in refrigerating systems), so it doesn't ever turn into a liquid in the system. It can only circulate as a gas, so if it gets into the liquid line, it shows

up as bubbles in the sight glass. So bubbles in the sight glass could be air in the system.

But they are not apt to be. Air usually gets trapped somewhere in the top of a receiver, in a float valve chamber, in an oil separator, in the dome of a hermetic unit, or any other place where it can pocket. Air avoids circulating with the refrigerant, especially the liquid refrigerant, if it can keep from it.

BUBBLES ARE REFRIGERANT VAPOR?

If the bubbles are refrigerant gas, why don't they condense in with the liquid? The answer to this one is that they are often formed in the liquid line. That is, the liquid starts out in the liquid line as a solid liquid.

Plenty of liquid in the receiver will seal the outlet to the liquid line. So the refrigerant starts out in the liquid line as a solid liquid, and no bubbles.

What then, causes the bubbles to form in the liquid line? The answer to this is another question. The bubbles are gas; and what

causes a liquid, under pressure, to turn into a gas? The answer is two-fold:

1. Reduction of pressure. If the pressure on a liquid is released or reduced, the liquid boils or evaporates, and changes to a gas. So if the liquid in the liquid line passes through a restriction, there is a pressure drop, and some of the liquid changes to a gas which shows up as bubbles in the sight glass.

LINE RESTRICTION MAY CAUSE BUBBLES

This reduction in pressure or pressure drop may be due to a kink in the liquid line, or a strainer, dehydrator, or valve that restricts the liquid flow and thus causes a pressure drop.

For these pressure drops to show up as bubbles in the sight glass, the sight glass must be located in the liquid line *beyond* the restriction that causes the pressure drop; that is, beyond and on the down pressure side of the strainer, dehydrator, etc.

If the sight glass is on the upper side of the restriction it would not

show the bubbles that were caused by the restriction, although they would be on the down pressure side. The sight glass would be showing that the system had enough refrigerant, and telling the truth; for there would be solid liquid to the liquid line.

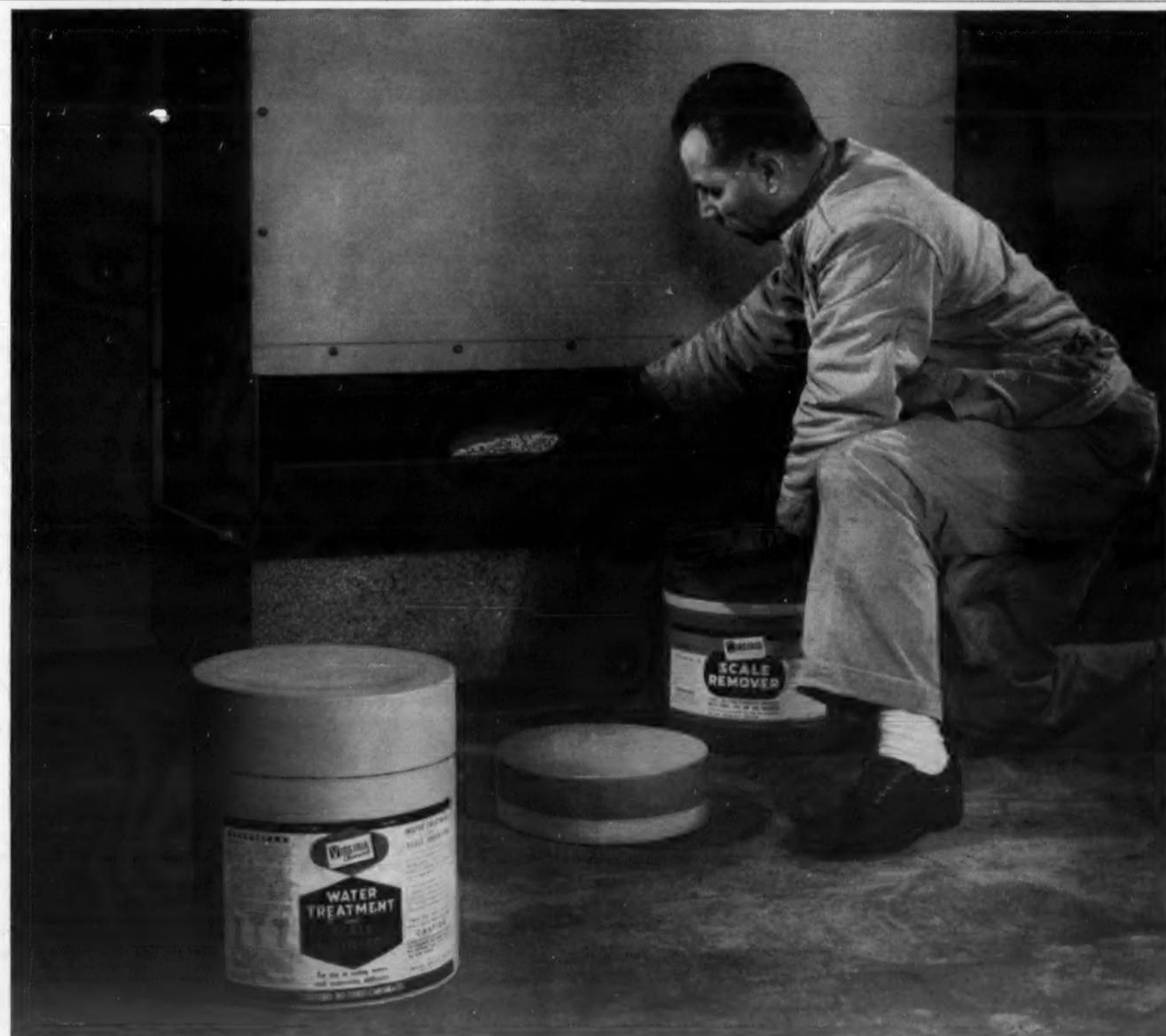
The evaporator might act the same as if the system were low-on-charge, for it might be "starved" and only partly frosted, and yet the trouble would not be due to low-on-charge, but rather to excessive pressure drop in the liquid line.

HEIGHT OF LIQUID LINE

In addition to actual restrictions in the liquid line, such as kinks, partially stopped strainers, etc., and to the liquid line being too small or too long, pressure drop in the liquid line may be due to a very considerable rise in the liquid line.

In that case the pressure drop would be caused by the weight of the liquid itself. The higher the evaporator is above the receiver, the longer must be the liquid line

(Continued on next page)



"Virginia's" new scale remover & scale inhibitor restore and maintain maximum heat transfer

Heat transfer efficiencies in water-cooled equipment can be maintained:

1. By scale and algae removal
2. By preventing formation of scale

These "Virginia" products are designed for corrective and preventive maintenance:

• "Virginia" Scale Remover (solid), a dry granular acid-safe to handle, and inhibited to protect expensive equipment without reducing its scale dissolving properties. It is an effective algicide. Packed in 10- and 50-pound drums. For use when water hardness is less than 200 p.p.m.

• "Virginia" Scale Remover (liquid), a blend based on hydrochloric acid, also effectively inhibited to reduce corrosion on metal surfaces. This product has 50% greater scale-dissolving capacity than similar cleaners. The wide-mouthed containers reduce the danger of splashing. Packed in 1-gallon glass bottles. For use under unusually hard water conditions.

• "Virginia" Water Treatment & Scale Inhibitor, recommended as a scale preventive in reconditioned or new equipment. It is a blend of glassy polyphosphates—nontoxic to humans or vegetable life. Requires no feeders—one treatment lasts 3 months or more. Slow, controlled solubility

is the secret. Recommended for use following scale removal from fouled equipment and in all new equipment. Packed in 6- and 50-pound containers.

Order these field-tested products from your wholesaler or write Refrigeration Division, VIRGINIA SMELTING CO., 154 Jefferson St., West Norfolk, Virginia.



ESOTOO-KINETIC CHEMICAL'S "FREON" REFRIGERANTS • V-METH-L
CAN-O-GAS • PERMAGUM • PRESSITE TAPE • KWIKWRAP
SUNISO REFRIGERATION OILS • WATER TREATMENT CHEMICALS

Available in Canada and many other countries

Checking Charge-

(Continued from preceding page)
and the greater is the weight of the liquid in the liquid line.

This column of liquid bears its full weight on the liquid in the condenser, receiver, and at the bottom end of the liquid line. So the condensing pressure is automatically increased in an amount represented by the weight of the column of liquid refrigerant the height of the liquid line.

For Refrigerant-12 at 90° this is about 1 1/2 p.s.i. for each 10 ft. rise. For methyl chloride, it is less, for methyl chloride is lighter than Refrigerant-12, that is, has lower density. For methyl at 90°, the liquid weight is equivalent to a pressure of 3.9 p.s.i. for each 10 ft. of height of the liquid line.

Up near the top of the line there is less weight of liquid than at the bottom so for every foot rise of liquid line, there is a reduction in pressure, for the weight of liquid becomes less.

Thus, there is a very considerable pressure drop from the bottom to the top of the liquid line, and this pressure drop is in addition to that caused by restrictions, the length and size of the line.

The farther up a vertical liquid line a sight glass is placed, the more would be the bubbles due to the pressure drop resulting from the weight of liquid refrigerant.

BUBBLES FROM HEATING THE LIQUID

2. Rise of temperature. If heat is added to a vessel containing liquid refrigerant, and with the pressure remaining the same, the liquid refrigerant boils, that is, it changes to a gas.

If the sight glass were located beyond the point at which the refrigerant was heated, bubbles would appear in the sight glass, and these bubbles would be the gas that the liquid had released because it had been heated.

The liquid line might be heated by passing in contact with or near some source of heat.

(To Be Continued)

Now Representing...

Superior Valve & Fittings Co.—New sales representatives in two territories have been appointed. HARCO, INC., Houston and Dallas, was named southwest representative to cover Texas, Oklahoma, New Mexico, Louisiana, Arkansas, and Mississippi. C. L. BENSEN, long-time sales engineer, has been appointed Minnesota, Iowa, North and South Dakota representative with headquarters in St. Paul.

Buensod-Stacey, Inc.—D. E. McCULLY CO., Omaha, Neb., and A. J. HAMILTON, Bridgeport, Conn., have been named sales representatives for dual-duct air mixing units and other products.

Airtemp Div., Chrysler Corp.—AIRECON DISTRIBUTORS CO., Atlanta, a new firm headed by L. J. O'Callaghan, has been named to represent Airtemp as Georgia distributor.

Tri-State Electric Mfg. Co. (Lima, Ohio)—GEORGE HENRY, who formerly operated a food service in the Delaware area, has been appointed southeastern field representative covering the southern half of Georgia and the state of Florida.

Rheem Mfg. Co.—WARM AIR HEATING SUPPLY CO., Detroit, a 25-year-old firm, has been named distributor of "Rheemaire" central air conditioning systems and Rheem furnaces.

Whirlpool Corp.—BRUNO-NEW YORK, INC. has been appointed distributor for RCA Whirlpool kitchens in metropolitan New York City area.

Amana Refrigeration, Inc.—APPLIANCE MERCHANTISERS, INC., Boston, has been named distributor in eastern Massachusetts and southern New Hampshire. APPLIANCE DISTRIBUTING CO., Columbus, Ohio was appointed Amana wholesaler in 20 counties of south central Ohio.

Preway, Inc. (Wisconsin Rapids, Wis.)—DON STILES KITCHEN HAVEN, Des Moines, Iowa has been appointed distributor "Preway Bilt-In" ranges, ovens, and refrigerator-freezers.

Winter Air Conditioning Fundamentals

UNIT HEATER—SIZE and LOCATION

(Factors To Consider for Maximum Comfort, Economy of Operation)

By H. C. Gurney, Janitrol Div., Surface Combustion Corp.

The first and most important factor to be considered in selecting the size and number of unit heaters needed to heat any given area is the calculation of a heat loss of the area at a predetermined design temperature.

This involves the total heat loss through walls, doors, windows, ceiling or roof, floors, and infiltration or air changes from leakage around doors, windows, and other non-sealed openings in wall or ceiling areas.

Infiltration or air change is a factor that must be carefully considered. For instance, in the average area such as a store-room office, with normal ceiling height, glass area, with two or more walls exposed, it is considered good practice to use from 1 1/2 to two air changes per hour.

However, if one, two, or three air changes per hour are used when figuring heat losses for large areas, such as warehouses, large garages, factory buildings, etc., total heat loss figures will actually be unreal.

AIR RELATIVELY STATIC IN LARGER AREAS

In such large volume areas, without mechanical ventilation, the air is comparatively static and actual air changes are infrequent. To arrive at a more realistic figure it is quite common practice among heating engineers to use an infiltration figure equivalent or equal to the glass loss in B.t.u./hr. Experience has shown these two factors to be closely related.

Another factor that must be considered is the ceiling height. For each additional one foot above 12 ft., the total heat loss of the building should be increased 1%.

After obtaining an estimated heat loss it is good practice to make adjustments for heat gain from industrial process equipment that may be operating in the area such as industrial furnaces, forges, or other heat producing equipment.

The heat release from processing equipment, in many instances, accounts for a considerable share of the heating requirements and can be removed for use if properly distributed. Heat gained from lights, motors, and occupants is usually negligible and is not considered.

Likewise consideration for special heat requirements must be allowed to maintain temperature if area is used to house cold materials such as in the case of steel warehouses, etc.

Another quite common condition is that of areas where exhausters or mechanical ventilators are installed. Adjustment must be made to compensate for the additional heat required for more than normal air changes.

In some cases it is necessary to install additional heating capacity, or in other cases, equipment, to heat make up air in volume equal to that exhausted.

A formula quite commonly

of a room or building approximately 100 ft. long it is very poor practice to install one large unit at one end of the room and expect it to satisfactorily heat the other end of the building.

A much better practice is to install two smaller units in the center of the room facing in opposite directions or to install a unit at each end of the room depending on the type of room.

The problem of sizing and selecting the number and size of unit heaters for any application not only requires sound and practical engineering but, most important, common sense.

A complete analysis of the specific room or building and the degree of temperature control and comfort conditions that must be maintained is absolutely necessary. If this practice is followed and good judgement is always exercised, it will in most cases insure a satisfactory and economical installation.

✓ Checking Plant Sites? Compare the

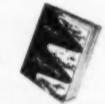
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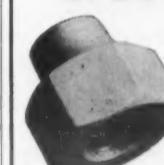
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FHA Softens Cooling Rules--

(Concluded from Page 1, Col. 5) ment that the air conditioning equipment be a permanent part of the house. This paves the way for acceptance of room air conditioners for inclusion under FHA-insured mortgages. (See page 5).

Elimination of all references to providing temperature and humidity conditions within the "Summer Comfort Zone" as defined in the ASHAE Guide.

Elimination of reference to split systems in determining capacity of equipment.

A new list of exhibits to be submitted to FHA. These include a layout of the system, heat gain calculations, model number and B.t.u. capacity of equipment according to ARI

standard, and B.t.u.h. capacity and total KW input at stated local design conditions. Eliminated is need to supply cost of installation and estimated annual operating and maintenance costs.

Making the submission of a performance guarantee by the contractor optional with the local FHA field office rather than mandatory.

A new requirement that filters shall be sized to provide not less than 1 sq. ft. of total face area per 300 c.f.m. of air and shall be readily accessible for cleaning or replacement.

ME-13 is a far different document from ME-12. Almost every section has been rewritten or reworded.

Survey Shows Bigger N.Y. Room Units--

(Concluded from Page 1, Col. 4) or close to 0.80.

Residential central air conditioners installed in 1956 had an average of 3.3 hp., in comparison with the 3.6 hp. figures for each of the two years preceding. The smaller-sized unit is described as reflecting the trend toward installation of central air conditioning in lower-priced, smaller homes.

Altogether, the New York City area is served by more than 700,000 room air conditioners, more than 8,000 central residential units, and more than 50,000 self-contained or packaged units of the type used for small stores and office areas, it was reported. These units provide a total of 1,600,000 hp.

They have been installed in

the largest number of the city's 12,000 restaurants, and in a percentage of the city's 115,000 stores that is believed far in excess of the national average of between 15 and 20%.

An increasing number of the city's 522 hotels have been installing room air conditioners, and the successful installation of central air conditioning in the Hotel Statler is expected to speed the trend elsewhere.

Central air conditioning installations also serve more than 32,000,000 sq. ft. of office space in the city.

Altogether, it was estimated, approximately 3,360,000 New Yorkers work, eat, shop, sleep, or seek entertainment in air conditioned comfort during the average summer day.

Anti-Bid Shopping Bill Tied-Up--

(Concluded from Page 1, Col. 3) made such assurances to their NAPC constituents writing in opposition to the bill, it was reported.

NAPC President Wilbur S. Hokom cited four basic reasons why the group is opposed to these bills. He said they unwisely establish a single contract system for construction contracting will encourage rather than prevent "bid shopping" and "bid peddling"; they could be used to break down sound state laws now governing separate contracting and bid shopping; and they limit mechanical specialty contracting work on buildings to an arbitrary and unrealistic point 5 ft. beyond the building line.

"In view of our objections,"

Hokom declared, "the only sound course for NAPC is to seek to have the bills held in committee until the present session of Congress ends. Hearings then can follow in the next session at which all issues may be presented and discussed fully . . . by all parties concerned."

NAPC said officials of the United Association also have raised objections to certain portions of the proposed legislation which "would be injurious to their members," and have joined with NAPC to oppose it.

In a joint memorandum to Senator Eastland, chairman of the Judiciary Committee, the UA and NAPC Aug. 21 stated in detail their basic objections to the bills.

Weber Showcase --

(Concluded from Page 1, Col. 4) eration under the Weber banner for more than two years and covers a half million square feet of floor space on a 15-acre site.

Stevenson has been connected with Weber Showcase for the past 17 years in various managerial positions. He was elected a vice president by the board of directors last April at which time he was placed in charge of sales for the Store Fixture, "WeberWall" Partition, and Laboratory Equipment divisions. His new duties will be those of vice president in charge of sales and assistant general manager.

Gas Utility Men--

(Concluded from Page 1, Col. 4) study the whole situation.

Even though this committee has not yet been completed, Zachry added that Chester L. May, senior vice president of Lone Star Gas Co., Dallas, would be one of the members.

Servel told its stockholders in a proxy statement that it has discontinued production of gas refrigerators and called a stockholders meeting Sept. 11 in Dover, Del. Purpose of the conclave is to approve sale of the All-Year Gas Air Conditioning Div. to Arkansas Louisiana Gas Co. and give directors authority to dispose of the company's remaining assets.

Air Filter Plant Due

MILWAUKEE — The new plant and office building of the Air Filter Corp., located at 4554 W. Woolworth Ave., is scheduled for completion Oct. 15.

According to Rodger Clark, president, the new facility will nearly double the firm's plant capacity. It will have 25,000 sq. ft. and cost approximately \$250,000.

Environment--

(Concluded from Page 1, Col. 2) keynote the conference with a talk on "Man's Effort To Control His Environment." W. A. Ray, president of General Controls Co., will join the closing panel discussion on the challenge of the future in comfort control design, with Dr. Boelter leading the group.

Sam Houston, assistant to dean of engineering Boelter, said reservation requests began to pour in two months in advance, even before announcements of the event had been mailed by the university.

One highlight of the conference will be a panel discussion led by Mrs. Ramona Dietemeyer of Lincoln, Neb., Mrs. America of 1956, who will act as women's spokesman.

Program for the gathering to be held in room 2250 in the chemistry-geology building, includes:

THURSDAY, SEPT. 12

8-9 a.m.—Registration, room 2250.

9-9:30—Session I.

Presiding: Leo Hungerford, director of sales engineering, Utility Appliance Corp., and general conference chairman.

Greetings: Vern O. Knudsen, vice chancellor, UCLA.

"Man's Effort To Control His Environment" by L. M. K. Boelter, dean, college of engineering, UCLA.

9:30-12—Presiding: Albert Bush, associate professor of engineering, UCLA.

9:30—"Characteristics and Meteorological Influences on the Climate of the Southwest Region" by James G. Edinger, assistant professor of meteorology, UCLA.

10:15—Coffee.

10:30—"Man's Influence on Air Composition," by Frank Stead, chief division of environmental sanitation, California State Dept. of Public Health, Berkeley, Calif.

11:15—"Application of Climatic and Atmospheric Data to Design" by Harry Buchberg, associate professor of engineering, UCLA.

12:15—Lunch.

1:30-4:10 p.m.—Session II.

Presiding: Craig Taylor, professor of engineering, UCLA.

1:30—"Human Requirements for the Ideal Indoor Climate" by L. P. Herington, the John B. Pierce Foundation and Yale University, director of research, Panel Laboratory of Hygiene.

2:25—"Medical Significance of Air Contamination" by Fred A. Bryan, professor of medicine, school of medicine, UCLA.

3:20—"Indoor Climate Desires for Family Living" by Mrs. Dietemeyer.

Panel: Home economics directors of area newspapers, Mrs. Dietemeyer moderator.

FRIDAY, SEPT. 13

9 a.m.-12 noon.—Session III.

Presiding: Harold P. Hayes, dean of engineering, California State Polytechnic college.

9—"Role of Building Design in Environmental Control" by John Rex, AIA, lecturer, department of engineering, UCLA.

9:50—Coffee.

10:05—"Static and Dynamic Methods of Environmental Control" by F. W. Hutchinson, professor of mechanical engineering, University of California, Berkeley.

10:55—"Economics of Year-Round Air Conditioning" by John E. Haines, vice president, Minneapolis-Honeywell Regulator Co. and past president of American Society of Heating & Air-Conditioning Engineers.

12 noon—Lunch.

1:45 p.m.—Session IV.

Panel discussion with audience participation—"The Indoor Climate of the Future: Its Challenge," Dean Boelter, moderator.

Panel members: Herington, Hutchinson, Haines, Rex, William A. Ray, president, General Controls Co.

Conference fee is \$20 which includes both luncheons.

American-Standard--

(Concluded from Page 1, Col. 5) full-line catalog on winter, summer, and year-round residential and light commercial air conditioning equipment has been issued.

According to Henry Rossell, Jr., sales manager, the catalog will be included in the 1958 editions of Sweet's Architectural & Light Construction files which are distributed to architects and builders throughout the United States.

Rossell further stated that copies of this new catalog are presently available from American-Standard Air Conditioning Div. distributors.

Punxsutawney--

(Concluded from Page 1, Col. 2) air conditioned immediately. He added: "After some production experience by local employees accustomed to that climate, a determination will be made in connection with complete air conditioning. The building is designed with this in mind."

Lower shipping rates to strategic areas will effect savings to purchasers from the new plant, the company stated. New distribution plans are being put into effect and details on the new marketing program will be announced shortly.

Plant operations will be carried on under the name of Beverage-Air, Inc. with the plant and general offices in Punxsutawney continuing as the Punxsutawney Co.

Mobile Supply Moves

MOBILE, Ala.—Mobile Supply Co., wholesaler for the air conditioning, heating, and sheet metal trade, recently occupied new quarters at 2694 New Highway 90 West.

Gene Gwin is general manager of the firm.

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results

in Santa Clara County before you decide!



Mr. W. A. Abbott, Jr., Manager of the San Jose Ford plant, made this comment. "Our objective was to increase volume of production. Since opening our new plant in Santa Clara County, we have broken all previous records." Ask any other industrial firm why this community was selected. The answers will convince you!

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If you are a manufacturers' representative, who wants to change or add to your line, we urge you to take advantage of our special service. If you are already listed with the NEWS, and want to bring your listing up-to-date, you also should send us the following information today (Please use your letterhead):

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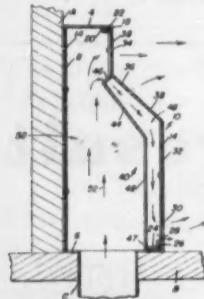
Detroit 26, Michigan

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PATENTS

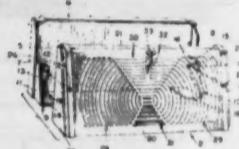
Week of July 16
(Continued)

2,799,213. AIR CIRCULATING AND DISTRIBUTING BASEBOARD. Alfrey A. Hansen, Deer Lodge, Mont.



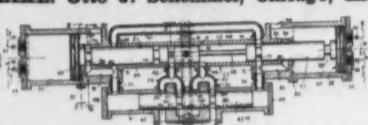
1. For use in air-conditioning a room or similar enclosure, an elongate hollow box-like baseboard having top, bottom, front, back and end walls, said front wall being readily attachable to and detachable from said top, bottom and end walls and having lengthwise upper and lower vertical portions joined by way of an inclined intermediate lengthwise portion, the latter portion and said upper portion being provided with air slots, said lower portion having air slots only at its junctural connection with the bottom wall, a duct communicating with the interior of the baseboard by way of the bottom wall, and an imperforate divider wall commensurate in length with said top, bottom, front and back walls and arranged in said interior and fastened to the bottom wall in close proximity to but spaced from said front wall and forming a relatively narrow passage between said front wall and divider wall...

2,799,215. AIR DIFFUSER. William C. De Bo, Holland, Mich., assignor to Hart & Cooley Mfg. Co., Holland, Mich.



1. An air diffuser assembly comprising, a rear panel including an upright imperforate wall adapted to be positioned at the juncture of the wall and floor of a room, flanges extending forwardly from the top and ends of said wall, an angle member at each end of said wall having a substantially vertical leg secured to the adjacent end flange and a substantially horizontal leg extending inwardly therefrom, the space between said last named legs being an air inlet opening, a front diffuser panel having rearwardly extending flanges at the top and ends thereof embracing the top and end flanges of said rear panel, and means removably securing said diffuser panel to said angle members.

2,799,444. HYDRAULICALLY OPERATED COMPRESSORS AND THE LIKE. Otto J. Schummel, Chicago, Ill.



1. A compressor unit including in combination a pair of cylinder elements each including a power cylinder and a compressor cylinder in axial alignment each with the other, a power plunger-compressor piston element for each cylinder element and including a power plunger working in the power cylinder and having a driving fluid pressure surface and a compressor piston working in the compressor cylinder of such unit and having a driven fluid compression surface, means connecting together the power plunger and the compressor piston of each power plunger-compressor piston element and constituted to retain said elements a fixed separation axially from each other, the power plunger and the compressor piston of each power plunger-compressor piston element being in axial alignment each with the other, and being reciprocable between a first terminal return position and a second fully moved power stroke position, pressure liquid supply and liquid release port means in each power cylinder...

2,799,446. FAN ASSEMBLY. Harry A. Meyer, Detroit, Mich., assignor, by mesne assignments, to American Radiator & Standard Sanitary Corp., New York, N. Y.

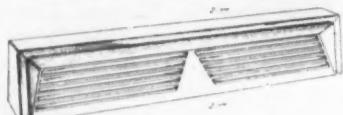
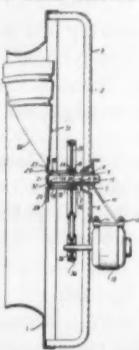
1. A fan assembly comprising a casing, bracket means extending across said casing, a sleeve fixedly secured in said bracket means, a shaft fixedly secured in said sleeve and carrying said fan assembly, and an electric lamp mounted in said sleeve, whereby light from said lamp is reflected from the inner sur-

ing end portions of its inner surface recessed to provide two oppositely facing shoulders, a bearing assembly engaging one of said shoulders and an

face of the light reflecting shell through the translucent material of the flared air delivery portion of the bowl into the air supply passageway.

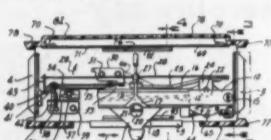
DESIGNS

180,671. BASEBOARD DIFFUSER. Arthur Jon Pulus, East Syracuse, N. Y., and John Raymond Carroll, Urbana, Ill., assignors to Borg-Warner Corp.



Week of July 23

2,799,901. REFRIGERATOR DOOR CONSTRUCTION. Robert A. Jansen, Cincinnati, Ohio, assignor to Avco Mfg. Corp.



2,799,749. HORIZONTAL TYPE THERMOSTAT. Jack E. Fleury, Detroit, Mich., assignor to Detroit Controls Corp., Detroit.

1. A thermostat comprising a support; a temperature responsive power member movably mounted on said support; switch means operatively connected with said power member for actuation thereby; a manually movable cam member mounted for rectilinear movement on said support; and mechanism between said power member and cam member for translating movement of said cam member into adjusting movement of the power member relative to the switch means, whereby to vary the temperature at which the power member actuates the switch means.

2,799,750. THERMOSTAT. Julius William Kovach, Detroit, Mich., assignor to Detroit Controls Corp., Detroit.

2,799,912. COMPRESSOR BLADE MANUFACTURE. John L. Goldthwaite and Stuart Wilder, Jr., Indianapolis, Ind., assignors to General Motors Corp., Detroit.

1. In a refrigerator door, an outer sheet metal shell including a flange extending inwardly from each edge thereof, an inner liner nested within said shell and including a flange extending outwardly from each edge thereof towards said first mentioned flanges, said flanges of said liner being joined at the corners thereof, gussets rigidly secured to the corners of said shell, said corners of said liner overlying said gussets and being secured thereto, said flanges defining a plurality of elongated slots extending parallel to the length of said flanges, a breaker strip extending between said flanges of said shell and liner, projections formed on said breaker strip for engaging the slots of said flanges on said liner...

2,799,913. COMPRESSOR BLADE

MANUFACTURE. John L. Goldthwaite and Stuart Wilder, Jr., Indianapolis, Ind., assignors to General Motors Corp., Detroit.

1. In a device of the character described, a dividing unit adapted to be disposed within an ice cube freezing tray for dividing the tray into a plurality of ice cube compartments, said dividing unit including cooperating top and bottom central dividing fingers, pin means attached to said fingers, level means attached to said pin means, a plurality of horizontally spaced fin members, each of which is loosely attached at a transverse angle to both of said top and bottom fingers and moved to relative movement of said fingers from a tilted to a substantially vertical position, said fin members also being located in spaced parallel relationship to each other, and pointed elements attached to both of the opposing surfaces of each of the said fin members, with the axes of the said pointed elements being located in planes parallel to that of said dividing fingers...

2,799,997. METHOD AND APPARATUS FOR REDUCING POWER NEEDED FOR COMPRESSION. William L. Morrison, Lake Forest, Ill., assignor, by direct and mesne assignments, to Constock Liquid Methane Corp., a corporation of Delaware.

1. A process for the manufacture of compressor elements and the like from a rough blank having a blade part and a foot part substantially thicker than the adjacent portion of the blade part at one end of the blade part comprising machining one face of the blade part to form a plane surface, forming the blade and foot parts of the blank concurrently to form the said machined face of the blank to a convex surface departing from a plane reference surface in accordance with the desired thickness of the finished blade, machining the concave face of the blank to the said plane surface while the blank is so bent, and further forming the blank to provide the desired camber and twist of the blade.

2,799,998. APPARATUS FOR REDUCING POWER NEEDED FOR COMPRESSION. William L. Morrison, Lake Forest, Ill., assignor, by direct and mesne assignments, to Constock Liquid Methane Corp., a corporation of Delaware.

1. A refrigeration system including a compressor, a condenser connected thereto to liquify the refrigerant, a restricted passage connected to said condenser, a downwardly extending tube connected to said restricted passage, an evaporator coil connected to the lower end of said tube, a housing encircling said tube and sealed at its lower end thereabout, said coil being connected to said housing near the upper end thereof, and a suction line connected to said housing near the upper end thereof...

2,800,000. LOW TEMPERATURE LIQUID CONCENTRATION. Carl Berger, Dayton, Ohio, assignor to The Commonwealth Engineering Co. of Ohio, Dayton, Ohio.

1. A refrigerant system including a compressor, a condenser connected thereto to liquify the refrigerant, a restricted passage connected to said condenser, a downwardly extending tube connected to said restricted passage, an evaporator coil connected to the lower end of said tube, a housing encircling said tube and sealed at its lower end thereabout, said coil being connected to said housing near the upper end thereof, and a suction line connected to said housing near the upper end thereof...

2,800,135. VALVE STRUCTURE. John H. Grayson, Monrovia, and Richard D. Grayson, La Canada, Calif., assignors to General Controls Co., Glendale, Calif.

1. In a valve structure: a casing having an inlet and an outlet passage for flow through the casing; a closure member adapted to obstruct flow between said passages and having an aperture adapted to interconnect the passages so as to permit such flow; means for mounting said closure member on said casing so that it is rotatable relative to the casing, to control flow therethrough, between one position wherein flow is obstructed by the closure member and another position wherein said passages are interconnected by said aperture; a member for operating said closure member; means for mounting said operating member on the closure member so that it is capable of rotating relative to the closure member through a small angle and about the axis of rotation of the closure member...

2,800,136. APPARATUS FOR DEHYDRATING HEAT SENSITIVE MATERIALS FROM LIQUIDS. Elwood P. Wenzelberger, Dayton, Ohio, assignor to The Commonwealth Engineering Co. of Ohio, Dayton, Ohio.

1. Apparatus for dehydrating liquid bearing solids by subjecting the same to freezing temperature to remove water as ice crystals, said apparatus comprising the combination of a container for holding the liquid to be treated and a cylinder disposed therein for receiving refrigerant, said cylinder comprising an inner stationary cylinder and outer revolvable cyl-

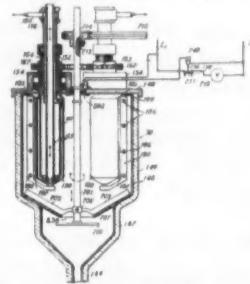
Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

Printed copies of patents, reissued patents, and patent designs may be secured from the Patent Office; patents and reissues are 25¢ each, while designs are furnished at 10¢ each. Copies should be ordered by number and title and a mention of the fact if they are either Designs or Reissues.

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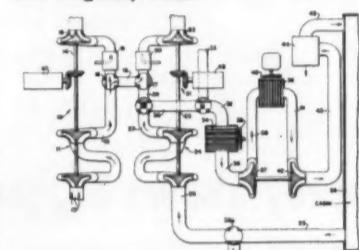
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inder having rigid inflexible walls, said outer cylinder being of slightly greater diameter than said inner cylinder and



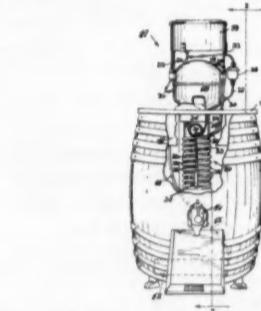
forming a concentric hollow wall space therebetween through which refrigerant is conducted, and means for revolving said outer cylinder.

2,800,002. CABIN REFRIGERATION SYSTEM. Albert B. Seed, Los Angeles, Calif., assignor to The Garrett Corp., Los Angeles, Calif.



1. In a closed cycle refrigeration system for cooling aircraft cabins when on the ground, a closed cabin, an air cycle refrigeration assembly having a cool air outlet communicating with the interior of said cabin, a gas turbine compressor assembly having a compressor inlet communicating with said cabin, said compressor assembly being provided with an outlet communicating with the inlet of said air cycle refrigeration assembly...

2,800,003. BEVERAGE COOLING UNIT. Richard F. Newby, Anderson, Ind.



1. A beverage cooling unit comprising an open-topped receptacle, a syrup vat supported in said receptacle near the top thereof, a container for liquid under pressure in said receptacle, a mixing chamber, means connecting said vat and said container with said mixing chamber, a spigot for dispensing liquid from said mixing chamber, said spigot being located outside said receptacle, a cover for said receptacle comprising one part overlying said vat and another part, said cover parts being independently movable relative to said receptacle, a phase-change refrigerating unit supported from said cover part, said unit comprising a compressor, a motor for driving said compressor, a condenser, and an evaporator...

2,800,136. APPARATUS FOR DEHYDRATING HEAT SENSITIVE MATERIALS FROM LIQUIDS. Elwood P. Wenzelberger, Dayton, Ohio, assignor to The Commonwealth Engineering Co. of Ohio, Dayton, Ohio.

1. Apparatus for dehydrating liquid bearing solids by subjecting the same to freezing temperature to remove water as ice crystals, said apparatus comprising the combination of a container for holding the liquid to be treated and a cylinder disposed therein for receiving refrigerant, said cylinder comprising an inner stationary cylinder and outer revolvable cyl-

1. In a valve structure: a casing having an inlet and an outlet passage for flow through the casing; a closure member adapted to obstruct flow between said passages and having an aperture adapted to interconnect the passages so as to permit such flow; means for mounting said closure member on said casing so that it is rotatable relative to the casing, to control flow therethrough, between one position wherein flow is obstructed by the closure member and another position wherein said passages are interconnected by said aperture; a member for operating said closure member; means for mounting said operating member on the closure member so that it is capable of rotating relative to the closure member through a small angle and about the axis of rotation of the closure member...

(To Be Continued)

Servicing Automobile Air Conditioners

(Vol. 2)

BY C. DALE MERICLE

The Mark IV unit is the sixth make to be discussed in the current series on automobile air conditioners. Makes previously described in this series were A.R.A., Artic-Kar, Frigette, Frigikar, and Kauffman. Several more makes by "independent" manufacturers will be reviewed in future instalments, following which units of most automobile manufacturers themselves will be described.

Models discussed in the current series are 1956 and/or 1957. For data on earlier models readers are referred to the original series of articles, which is available now in the handy manual, *Servicing Automobile Air Conditioners*.

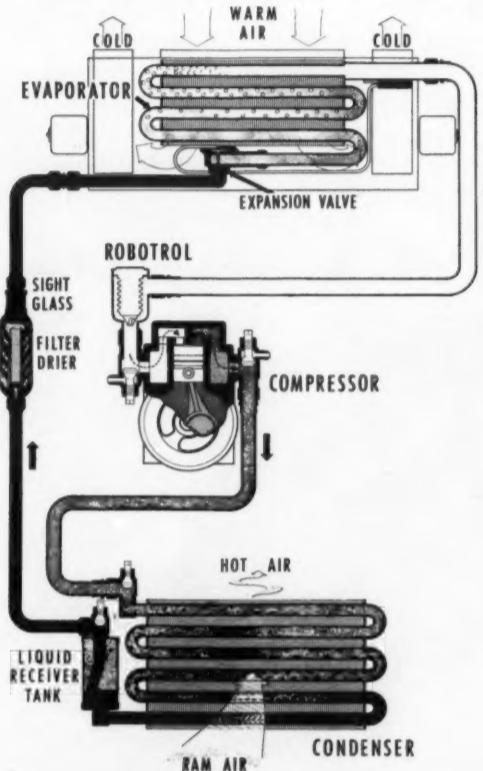


FIG. 1 is schematic of 1956 Mark IV trunk system. Note shut-off valves at condenser-receiver assembly and "RoboTrol" capacity control valve at suction inlet of compressor.

MARK IV (1)

Mark IV Div.
John E. Mitchell Co.
3800 Commerce St.
Dallas, Texas

Prior to 1956 the manufacturer of these units was Mark IV, Inc., Oklahoma City. At the close of 1955 the Mitchell company acquired exclusive rights and patents to the line.

Conditioners produced in 1956 and 1957 included units for installation under the dash as well as trunk units. Most of these were marketed under the "Mark IV" name, but some were distributed under private brand names.

In all models the compressor is belt driven off the car engine and the condenser is mounted in front of the car radiator.

Refrigerant-12 is employed in all 1956 and 1957 Mark IV conditioners.

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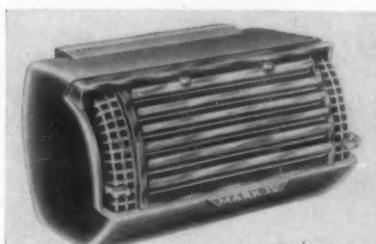


FIG. 2—Mark IV 1957 under-dash unit has plastic-glass fiber case.

mounted compressors oil level should range between top of sight glass and 5/16 in. up on glass. For horizontal mounted compressors oil level should be between 1/4 in. and 3/8 in. up on sight glass.

Late model HH compressors require use of a wire as dipstick to measure oil level. On vertical mounted compressors oil should be between 1 1/8 in. and 1 1/2 in. on dipstick. On horizontal mounted compressors oil should be between 1 3/8 in. and 1 9/16 in. on dipstick.

No magnetic clutch is normally used on the 1956 and 1957 Mark IV conditioners. Such a clutch, however, is available as optional equipment, so it may be encountered on some installations.

Condenser

Condenser is located between radiator and grille of the car.

On 1956 models a receiver tank is part of the condenser assembly. A shut-off valve is provided at the receiver outlet on top. There is also a shut-off valve at the inlet to the condenser. (See Fig. 1.)

With this arrangement of receiver and valves, entire refrigerant charge can be pumped into the condenser-receiver assembly and isolated from the rest of the system. The manufacturer, in fact, shipped 1956 units with a full refrigerant charge in the condenser-receiver assembly.

On 1957 models there is no separate receiver tank, and the shut-off valves at the condenser are eliminated.

Both 1956 and 1957 Mark IV units have a combination drier-sight glass in the liquid line.

Evaporator

Cooling case assemblies of both trunk and under-dash units house the evaporator coil, thermostatic expansion valve, and blower(s).

Thermostatic expansion valves employed on 1956 and 1957 models, with one exception, do not permit field adjustment of the superheat setting. One of two different valves found in the 1956 under-dash model can be adjusted in the field, but the vertical conditioner manufacturer does

not recommend attempting field adjustment.

Trunk models are equipped with two squirrel cage blowers operated by two-speed motors. These discharge air through adjustable outlets in the parcel shelf. Return air intake is also in the parcel shelf.

A single propeller-type fan is

employed in the under-dash unit. This is driven by a two-speed motor.

The 1957 under-dash cooling case (Fig. 2) is of plastic impregnated with glass fiber. Chrome louvers provide adjustable control of air direction.

(To Be Continued)

Government Contracts

SYNOPSIS OF PROPOSED PROCUREMENT

AIR FORCE

Purchasing and Contracting Office, Patrick Air Force Base, Fla. INSTALLATION OF AIR CONDITIONING, Bldg. 710, Patrick Air Force Base, Fla.—Job—IFB 08-606-58-64—Bid Opening 8 Sept. 57.

GENERAL SERVICES ADMINISTRATION

General Services Administration, Region 7, Business Service Center, 114 Commerce, Dallas, Texas.

AIR CONDITIONING PETIT Jury Room 307B, U. S. Post Office & Court House, Pecos, Texas—Job—IFB CR72-453—Bid Opening 9-10-57.

General Services Administration, Region 4, Business Service Center, 50 Seventh St., N.E., Atlanta 23, Ga.

AIR CONDITIONING COURT ROOM, Judges Suite and Petit Jury Room, Greenville, S. C., Post Office and Court House—Job—IFB CR4-1701—Bid Opening 9-17-57.

U. S. DEPARTMENT OF COMMERCE

Supply Division, Technical Development Center, Civil Aeronautics Administration, Indianapolis, Ind.

AIR CONDITIONING UNITS, 1 ton, Window Type, in accord with Specs.—10 ea.—IFB 11—Bid Opening 9-6-57.

ARI Drops 3 Obsolete Standards

WASHINGTON, D. C.—In line with its policy of keeping the entire list of ARI Standards up-to-date, the Air-Conditioning & Refrigeration Institute announces that three old standards have been abandoned as "no longer valid or necessary."

The three are: ARI 5-50, "Installation for Cold Storage Rooms"; ARI 5-70, "Location and Inspection of Data Plates on Refrigerant-Containing Vessels"; and ARI 5-80, "Steel and Wrought Iron Pipe."

All three standards were initiated and established by the Air-Conditioning & Refrigeration Machinery Association, one

During 1956 ARI published 11 new standards, and already in 1957 has published two new standards and a revision of the booklet "Properties of Commonly-Used Refrigerants." Several more are in draft form and approval by engineering committees and affected sections is expected before the end of this calendar year.

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SALES APPLICATION engineers for headquarters office of a large national manufacturer of residential, commercial, and industrial air conditioning and air handling equipment. Work involves all aspects of sales and application problems. Unlimited opportunity in all phases of the air conditioning business is available. BOX A5866, Air Conditioning & Refrigeration News.

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FOR SALE: Surplus inventory of new refrigeration coils and compressor bodies 1/4 h.p. to 3 h.p. at prices below cost. Nationally known manufactured products. Send for lists and prices to BOX A5867, Air Conditioning & Refrigeration News.

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TREMENDOUS OPPORTUNITY to own and operate business earning over \$18,000 a year. Can be purchased for book value. Investment back in less than three years. Refrigeration and air conditioning contracting business established over 17 years. Large, profitable service department. Located in rapidly growing midwestern city. BOX A5868, Air Conditioning & Refrigeration News.

MISCELLANEOUS

ATTENTION SERVICEMEN: Send for free circulars and bulletins on refrigeration parts and equipment. Real money saving values: WALTER W. STARR, 2333 Lincoln Avenue, Chicago 13, Illinois.

Frigidaire Training Center To Reopen In Detroit Sept. 3

DETROIT—Sept. 3 marks the reopening date for Frigidaire Training Center at General Motors Training Center here, with schools on the newly-announced 1958 line of Frigidaire laundry equipment.

Beginning the second season for these facilities, Frigidaire Sales Corp. said servicemen attending 1956-57 training sessions "report that this is the most beneficial type of training ever made available to them."

School scheduling in forthcoming months will include training sessions for appliance, commercial, and industrial servicemen, it was pointed out.

Some of the proposed schools are: fundamentals of refrigeration; component replacement schools (appliance and commercial); five-day basic appliance schools; five-day basic commercial schools; home freezer; three-day laundry schools; heating; and air conditioning.

Recold 'Success Story' To Be Told on TV Sept. 6

LOS ANGELES—Recold Corp. here has been selected to be featured on the award-winning television show "Success Story," Friday, Sept. 6 over KTTV (Los Angeles, Channel 11, from 7 to 7:30 p.m.).

Sponsored by Richfield Oil Corp., "Success Story" is a live documentary show which weekly features outstanding companies of Los Angeles which have grown from meager beginnings, to high successful operations.

Established in 1932 by H. T. (Hy) Jarvis, Recold has grown from a "one-man, one-bench" plant which manufactured only gravity fin coils to a factory today which occupies 120,000 sq. ft. and produces a broad line of refrigeration and air conditioning equipment.

Recold's rise to success as told through a personal interview with Hy Jarvis and a tour of the plant's entire operations will highlight the program featuring Recold. The show will emanate from Recold's headquarters at 7250 E. Slauson.

Hupp Export Officials Tour Caribbean Outlets

CLEVELAND—Robert Suazo and Joseph Blair, western hemisphere export sales managers of Hupp International, a division of Hupp Corp., have left company headquarters here for a tour of Caribbean area distributors and representatives, it was announced by D. S. Smith, president.

Suazo and Blair will visit Havana, Ciudad Trujillo, San Juan, Caracas, Port of Spain, Panama City, San Jose, Managua, Tegucigalpa, San Salvador, Guatemala City, and Mexico City over a six-week period.

Hupp International is the international sales organization for Perfection furnaces, space heaters, and air conditioning products, Gibson major appliances, and other products of Hupp Corp.

McCray Licenses Australian Firm To Make Refrigerated Self-Service Cases

KENDALLVILLE, Ind.—J. W. Krall, president of McCray Chants, at this time, are just beginning to convert their Foster Cortis, representing stores to the self-service type of D.G.M. Refrigeration, Ltd., of operation," it was pointed out. Sydney, Australia, have signed "Dangar, Geyde & Malloch, Ltd. an agreement licensing the plan to foster this trend by adding latter to manufacture products of McCray design and granting the firm selling privileges in Australia and New Guinea.

D.G.M. Refrigeration, Ltd. is a subsidiary of one of Australia's oldest agricultural machinery companies, Dangar, Geyde & Malloch, Ltd., which was established in 1838. In 1924 this company pioneered the manufacture of commercial refrigeration in Australia and since that time it has been a leader in this field, according to the announcement.

Development of this new line of equipment will be under the direction of Cortis, "an engineer of experience and reputation, who spent many weeks at McCray studying manufacturing procedures and methods in order to be able to get into production with a minimum of delay."

'Ace' Speaker To Close West Coast Gas Group Meeting; Awards Due

SAN FRANCISCO—Previously unannounced, an ace speaker has accepted the closing program spot of the 64th annual convention of Pacific Coast Gas Association here Sept. 3-5.

Dr. Frank C. Baxter of Los Angeles, University of Southern California English professor, will speak of "The Rising Level of Education of the Public" on Thursday morning. He is a television educator with many awards including four "Emmys."

PCGA nominating committee has selected for 1958 officers: for president, C. H. Gueffroy of Portland Gas & Coke Co.; for vice president, R. R. Blackburn of Southern California Gas Co.; and for treasurer, Harry McGann of Pacific Gas & Electric Co.

Industry awards to be presented at the PCGA convention include the top award of the Basford trophy which will go to the Sales and Advertising Section, for which Burton Larson of Southern Counties Gas Co. is general chairman.

Gold medal awards go to Joseph Staller of Southern California Gas Co., sponsor of the residential section; and to R. K. Van Der Lohe of Southern Counties Gas Co., sponsor of the non-residential section of the group.

The gold medals are for the splendid manner in which these men planned, organized, and conducted the first PCGA sales conferences in the Pacific Northwest to implement introduction of natural gas there.

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